elaware Medical gournal

Official Publication of the Medical Society of Delaware



NOVEMBER, 1960 . . . MENTAL HYGIENE ISSUE

when judgment dictates oral penicillin, experience dictates...

V-CILLIN K°

- . for maximum effectiveness
- . for unmatched speed
- . for unsurpassed safety

In tablets of 125 and 250 mg.

ELI LILLY AND COMPANY . INDIANAPOLIS 6, INDIANA, U.S.A.



033230

4,860 CULTURES... 74% SENSITIVE TO

In a study of the sensitivity of various clinically important bacteria to six common antibacterial substances, Goodier and Parry¹ report "...a greater proportion of the individual strains within the various genera sensitive to chloramphenicol."

Numerous other studies draw attention to the continuing sensitivity of stubborn pathogens to CHLOROMYCETIN.²⁻⁸ For example, Modarress and co-workers observe: "The versatile chloramphenicol was useful each year." Petersdorf and associates³ state: "There has been no increase in resistance to chloramphenicol... during the past three years."

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in various forms, including Kapseals® of 250 mg., in bottles of 16 and 100.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

References: (1) Goodier, T. E. W., & Parry, W. R.: Lancet 1:356, 1959. (2) Modarress, Y.; Ryan, R. J., & Francis, Sr. C.: J. M. Soc. New Jersey 57:168, 1960. (3) Petersdorf, R. C., et al.: Arch. Int. Med. 105:398, 1960. (4) Rebhan, A. W., & Edwards, H. E.: Canad. M.A.J. 82:513, 1960. (5) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: J.A.M.A. 173:475, 1960. (6) Olarte, J., & de la Torre, J. A.: Am. J. Trop. Med. 8:324, 1959. (7) Berle, B. B., et al.: New York J. Med. 59:2383, 1959. (8) Fisher, M. W.: Arch. Int. Med. 105:413, 1960.

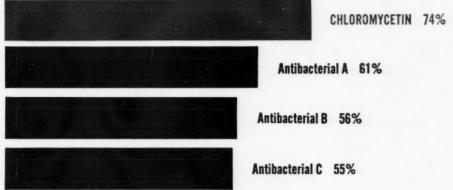
PARKE, DAVIS & COMPANY

Detroit 32, Michigan

PARKE-DAVIS

(chloramphenicol, Parke-Davis)

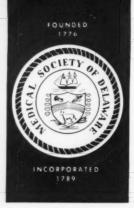
IN VITRO SENSITIVITY OF 4,860 GRAM-POSITIVE AND GRAM-NEGATIVE PATHOGENS TO CHLOROMYCETIN AND TO FIVE OTHER ANTIBACTERIALS*







'Adapted from Goodier & Parry'



elaware Medical Journal

Official Publication of the Medical Society of Delaware

EDITORIAL AND BUSINESS OFFICES 1925 LOVERING AVENUE, WILMINGTON 6, DELAWARE

A. HENRY CLAGETT, JR., M.D. Editor

M. A. TARUMIANZ, M.D. Associate & Managing Editor MELITA A. PHILLIPS Assistant Editor

LAWRENCE C. MORRIS, JR. Business Manager

JOSEPH W. ABBISS, M.D. Associate Editor

NOVEMBER, 1960

NUMBER 11

VOLUME 32

Owned and published by the Medical Society of Delaware, a scientific non-profit corporation.

Issued the fifteenth of each month under the supervision of the Committee on Publication.

Articles are accepted for publication on condition that they are contributed solely to this JOURNAL. Manuscripts must be typewritten, double spaced, with wide margins, and the original copy submitted. Photographs and drawing for illustrations must be carefully marked and show clearly what is intended.

Footnotes and bibliographies should conform to the style of the Cumulative Index Medicus, published by the National Library of Medicine and the American Medical Association.

Changes in manuscript after an article has been set in type will be charged to the author. THE JOURNAL, pays only part of the cost of tables and illustrations. Unused manuscripts will not be returned unless return postage is forwarded. Reprints may be obtained at cost, provided request is made of the printers before publication.

The right is reserved to reject material submitted for publication. THE JOURNAL is not responsible for views expressed in any article signed by the author.

All advertisements are received subject to the approval of the Committee on Publication of the Medical Society of Delaware. Adver-tising forms close the 15th of the preceding month.

Matter appearing in THE JOURNAL is covered by copyright. As a rule, no objection will be made to its reproduction in reputable medical journals, if proper credit is given.

Subscription price: \$5.00 per annum, in advance. Single copies, 75 cents. Foreign countries \$5.00 per annum.

CONTENTS

| | Page |
|--|-------|
| THE "OPEN DOOR" FOR MENTAL PATIENTS, M. A. Tarumianz, M.D. | 411 |
| Chromosomal Abnormalities — Mental Deficiency and Disease of the Endocrine, Charles William Dunn. M.D | 415 |
| The School — A Factor in Emotional Problems and Delinquency in Children, Harry S. Howard, M.D., Leon Petty, M.S. | 423 |
| Intensive Treatment for Acutely Disturbed Pre- Psychotic and Psychotic Children, Louis J. Kowalski, M.D. | 426 |
| FATALITIES, DURING AND FOLLOWING FLUPHENAZINE THERAPY, Kurt Anstreicher, M.D. | . 430 |
| Successful Treatment of Severely Disturbed Children, $Mary\ Nanigian,\ M.D.$ | . 435 |
| Anticoagulant Therapy in the Presence of Pulmonary Venous Congestion, Roger H. Culpan, M.D. | . 440 |
| President's Page | . 443 |
| OBITUARY — JOSEPH B. WAPLES, M.D. | . 444 |
| EDITORIALS | . 445 |
| In Brief | . 446 |
| Auxiliary Affairs | 449 |
| Contributors Column | 450 |

Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Issued monthly. Copyright, 1960, by the Medical Society of Delaware



In disabling rheumatoid arthritis. A 62-year-old printer incapacitated for three years was started on DECADRON, 0.75 mg./day. Has lost no work-time since onset of therapy with DECADRON one year ago. Blood and urine analyses are normal, sedimentation rate dropped from 36 to 7. He is in clinical remission.*

New convenient b, i, d, alternate dosage schedule: the degree and extent of relief provided by DECADRON allows for b.i.d. maintenance dosage in many patients with so-called "chronic" conditions. Acute manifestations should first be brought under control with a t.i.d. or q.i.d. schedule.

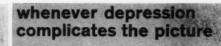
Supplied: As 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100. Also available as Injection DECADRON Phosphate. Additional information on DECADRON is available to physicians on request. DECADRON is a trademark of Merck & Co., Inc.

*From a clinical investigator's report to Merck Sharp & Dohme.





gill





hastens recovery

Geigy

In many seemingly mild physical disorders an element of depression plays an insidious etiologic or complicating role.

Because of its efficacy as an antidepressant, coupled with its simplicity of usage, Tofrānil is admirably adapted to use in the home or office in these milder "depression-complicated" cases.

It is always wise to recognize that depression may be an underlying factor...that Tofrānil may speed recovery in "hypochondriasis"; in convalescence when recovery is inexplicably prolonged; in chronic illness with dejection; in the menopausal patient whose emotional disturbances resist hormone therapy; and in many other comparable situations in which latent depression may play a part.

Detailed Literature Available on Request:

Tofrānil[®], brand of imipramine hydrochloride, tablets of 25 mg. Ampuls for intramuscular administration, 25 mg. in 2 cc. of solution.

Geigy, Ardsley, New York

For the multi-system disease HYPERTENSION

SALUTENSIN

Hydroflumethiazide • Reserpine • Protoveratrine A

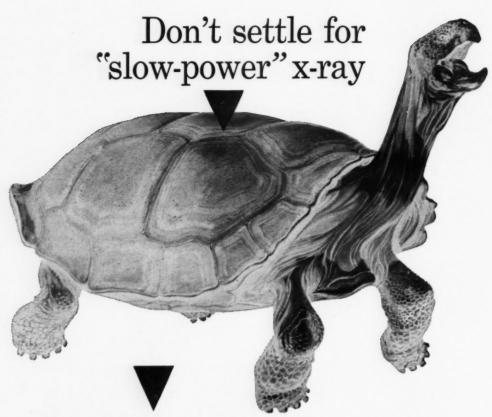
In each SALUTENSIN Tablet:

Reserpine – a tranquilizing drug with peripheral vasorelaxant effects 0.125 mg.

An integrated multi-therapeutic antihypertensive, that combines in balanced proportions three clinically proven antihypertensives.

Comprehensive information on dosage and precautions in official package circular or available on request.

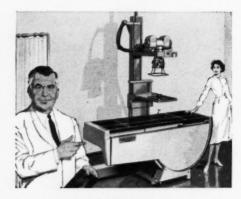
BRISTOL LABORATORIES . Syracuse, New York



get a full 200-ma with your Patrician combination

When anatomical motion threatens to blur radiographs, the 200-ma Patrician can answer with extreme exposure speed, twice that of any 100-ma installation. Film images show improved diagnostic readability . . retakes are fewer. And you'll find the G-E Patrician is like this in everything for radiography and fluoroscopy: built right, priced sensibly, uncompromising in assuring you all basic professional advantages. Full-size 81" table . . independent tubestand . . shutter limiting device . . automatic tube protection . . . counterbalanced fluoroscope, x-ray tube and Bucky . . . full-wave x-ray output.

You also can rent the Patrician—through G-E Maxiservice® x-ray rental plan. Gives you the complete x-ray unit, plus maintenance, parts, tubes, insurance, local taxes—everything—for one, uniform monthly fee. Get details from your local G-E x-ray representative listed below.



Progress Is Our Most Important Product

GENERAL @ ELECTRIC

DIRECT FACTORY BRANCHES

BALTIMORE

PHILADELPHIA



to
contain
the
bacteria-prone
cold

safe antibiosis

Triacetyloleandomycin, equivalent to oleandomycin 125 mg. This is the URI antibiotic, clinically effective against certain antibiotic-resistant organisms.

fast decongestion

Triaminic*, 25 mg., three active components stop running noses. Relief starts in minutes, lasts for hours.

well-tolerated analgesia

Calurin®, calcium acetylsalicylate carbamide equivalent to aspirin 300 mg. This is the freely-soluble calcium aspirin that minimizes local irritation, chemical erosion, gastric damage. High, fast blood levels.

TAIN brings quick, symptomatic relief of the common cold (malaise, headache, muscular cramps, aches and pains) especially when susceptible organisms are likely to cause secondary infection. Usual adult dose is 2 Inlay-Tabs, q.i.d. In bottles of 50. B only. Remember, to contain the bacteria-prone cold...TAIN.

SMITH-DORSEY · LINCOLN, NEBRASKA

a division of The Wander Company

Tannouncing... Tancoprise acid (300 mg.) and chlormezanone (50 mg.) Tablets

Trancoprin interrupts the pain cycle at 3 points PAIN SPASM

a broad spectrum non-narcotic analgesic

Trancoprin, a new analgesic, not only raises the pain perception threshold but, through its chlormezanone component, also relaxes skeletal muscle spasm¹⁻⁶ and quiets the psyche.^{2,3-5,7}

The effectiveness of Trancoprin has been demonstrated clinically⁸ in a number of patients with a wide variety of painful disorders ranging from headache, dysmenorrhea and lumbago to arthritis and sciatica. In a series of 862 patients,⁸ Trancoprin brought excellent or good relief of pain to 88 per cent of the group. In another series,⁹ Trancoprin was administered in an industrial dispensary to 61 patients with headache, bursitis, neuritis or arthritis. The excellent results obtained prompted the prediction that Trancoprin "...will prove a valuable and safe drug for the industrial physician."

Exceptionally Safe

No serious side effects have been encountered with Trancoprin. Of 923 patients treated with Trancoprin, only 22 (2.4 per cent) experienced any side effects.^{8,9} In every instance, these reactions, which included temporary gastric distress, weakness or sedation, were mild and easily reversed.

Indications

Trancoprin is recommended for more comprehensive control of the pain complex (pain → tension → spasm) in those disorders in which tension and spasm are complicating factors, such as: headaches, including tension headaches / premenstrual tension and dysmenorrhea / low back pain, sciatica, lumbago / musculoskeletal pain associated with strains or sprains, myositis, fibrositis, bursitis, trauma, disc syndrome and myalgia / arthritis (rheumatoid or hypertrophic) / torticollis / neuralgia.

Dosage

The usual adult dosage is 2 Trancoprin tablets three or four times daily. The dosage for children from 5 to 12 years of age is 1 tablet three or four times daily. Trancoprin is so well tolerated that it may be taken on an empty stomach for quickest effect. The relief of symptoms is apparent in from fifteen to thirty minutes after administration and may last up to six hours or longer.

How Supplied

Each Trancoprin tablet contains 300 mg. (5 grains) of acetylsalicylic acid and 50 mg. of chlormezanone [Trancopal* brand]. Bottles of 100 and 1000.

Trancoprin Tablets / non-narcotic analgesic

References: 1. DeNyse, D. L.: M. Times 87:1512, Nov., 1959. 2. Ganz, S. E.: J. Indiana M. A. 52:1134, July, 1959. 3. Gruenberg, Friedrich: Current Therap. Res. 2:1, Jan., 1960. 4. Kearney, R. D.: Current Therap. Res. 2:127, April, 1960. 5. Lichtman, A. L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958. 6. Mullin, W. G., and Epifano, Leonard: Am. Pract. & Digest Treat. 10:1743, Oct., 1959. 7. Shanaphy, J. F.: Current Therap. Res. 1:59, Oct., 1959. 8. Collective Study, Department of Medical Research, Winthrop Laboratories. 9. Hergesheimer, L. H.: An evaluation of a muscle relaxant (Trancopal) alone and with aspirin (Trancoprin) in an industrial medical practice, to be submitted.

Winthrop LABORATORIES, New York 18, N. Y.

in common Gram-positive infections due to susceptible organisms YOU CAN COUNT ON

TAO

(triacetyloleandomycin)

even in many resistant Staph*



1,928 published cases in the two years since TAO was released for general use show:

94.3% effectiveness in respiratory infections (617 cases including tonsillitis, staphylococcal and streptococcal pharyngitis, bronchitis, infectious asthma, broncho-pneumonia, lobar pneumonia, bronchiectasis, lung abscess, otitis.)

You can count on TAO.

92% effectiveness in skin and soft tissue infections (900 cases including pyoderma, impetigo, acne, infected skin disorders, wounds, incisions and burns, furunculosis, abscess, cellulitis, chronic ulcer, adenitis.)

You can count on TAO.

87.1% effectiveness in genitourinary infections (349 cases including urethritis, cystitis, pyelitis, pyelonephritis, orchitis, pelvic inflammation, acute gonococcal urethritis, lymphogranuloma venereum.)

You can count on TAO.

75.8% effectiveness in diverse infections (62 cases including fever of undetermined origin, peritoneal abscess, osteitis, periarthritis, septic arthritis, staphylococcal enterocolitis, gastroenteritis, carriers of staphylococci.) You can count on TAO.

95.6% of 1,928 cases free of side effects—in the remaining 4.4%, reactions were chiefly mild gastrointestinal disturbances which seldom necessitated discontinuance of therapy.

*In 884 of 1,928 cases the causative organisms were mostly staphylococci. The majority of clinical isolates were found to be resistant to at least one of the commonly used antibiotics and many patients had failed to respond to previous therapy with one or more antibiotics. TAO proved 93.4% effective in these 884

Complete bibliography available on request.

DOSAGE: varies according to severity of infection. Usual adult dose—250 to 500 mg. q.i.d. Usual pediatric dose: 3-5 mg./lb. body weight every 6 hours.

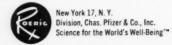
NOTE: In some children, when TAO was administered at considerably higher than therapeutic levels for extended periods, transient-jaundice and other indications of liver dysfunction have been noted. A rapid and complete return to normal occurred when TAO was withdrawn.

SUPPLY: TAO CAPSULES—250 mg. and 125 mg., bottles of 60. TAO ORAL SUSPENSION—125 mg. per 5 cc. when reconstituted, palatable cherry flavor, 60 cc. bottles. TAO PEDIATRIC DROPS—100 mg. per cc. when reconstituted, flavorful; special calibrated dropper, 10 cc. bottles. INTRAMUSCULAR or INTRAVENOUS—10 cc. vials, as oleandomycin phosphate.

OTHER TAO FORMULATIONS ALSO AVAILABLE: TAO®-AC (Tao, analgesic, antihistaminic compound) capsules, bottles of 36. TAOMID® (Tao with Triple Sulfas)—tablets, bottles of 60. Oral Suspension—60 cc. bottles.

For nutritional support VITERRA® Vitamins and Minerals

Formulated from Pfizer's line of fine pharmaceutical products.





the complaint: "nervous indigestion"

the diagnosis: any of several nonspecific and functional in the gastric-soluble outer layer: gastrointestinal disorders requiring relief of symptoms by sedative-antispasmodic action with concomitant digestive enzyme therapy.

the prescription: a new formulation incorporated in an enteric-coated tablet, providing the multiple actions of widely accepted Donnatal® and Entozyme.®

the dosage: two tablets three times a day, or as indicated.

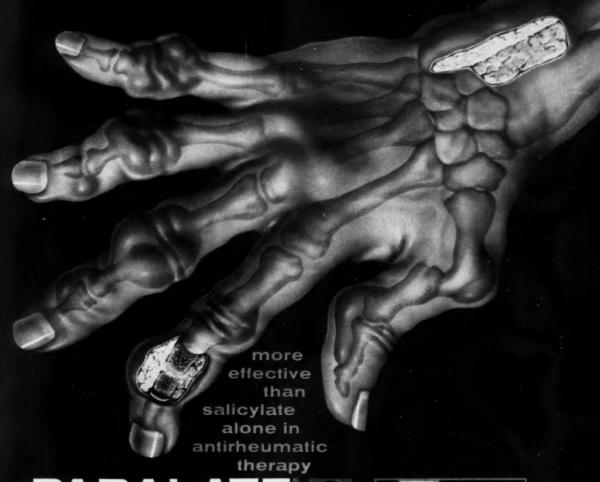
| m me gaeme comme cater injure | |
|-------------------------------|-----|
| Hyoscyamine sulfate0.0518 | mg. |
| Atropine sulfate | mg. |
| Hyoscine hydrobromide0.0033 | mg. |
| Phenobarbital (1/8 gr.)8.1 | mg. |
| Pepsin, N. F | |
| | |

in the enteric-coated core:

| Pancreatin, | N. | F. | | | | | | | | | | | | | | | | .300 m | ıg. |
|-------------|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---------|-----|
| Bile salts. | | | | | | | | | | | | | | | | | | . 150 m | ıg. |

antispasmodic · sedative · digestant

A. H. ROBINS COMPANY, INCORPORATED . RICHMOND 20, VIRGINIA



PABALATE



COMBINING MUTUALLY SYNERGISTIC NON-STEROID ANTIRHEUMATICS

"superior to aspirin" — "... evidence seems to indicate that the concurrent administration of para-aminobenzoic and salicylic acid [as in Pabalate] produces a more uniformly sustained level for prolonged analgesia and, therefore, is superior to aspirin in the treatment of chronic rheumatic disorders." 1

In each yellow enteric-coated PABALATE tablet:

| Sodium | salicylate | (5 | gr.) | 0.3 | Gm. |
|----------|------------|----|-----------------|------|-----|
| Sodium | para-amin | ob | enzoate (5 gr.) | 0.3 | Gm. |
| Ascorbio | c acid | | | 50.0 | mg. |

For the nations who should avoid sodium

PABALATE-SODIUM FREE

Same formula as Pabalate, with sodium salts replaced by potassium salts (pink)

For the patient who requires steroids

PABALATE-HC

Pabalate with Hydrocortisone

In each light blue enteric-coated PABALATE-HC tablet:

| Hydrocortisone | 2.5 | mg. | |
|--------------------------------------|------|-----|--|
| Potassium salicylate (5 gr.) | 0.3 | Gm. | |
| Potassium para-aminobenzoate (5 gr.) | 0.3 | Gm. | |
| Ascorbic acid | 50.0 | mg. | |

1. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

A. H. ROBINS CO., INC., Richmond 20, Virginia









Lifts depression...as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

Balances the mood – no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient – they often aggravate anxiety and tension.

And although amphetamine-barbiturate combinations may counteract excessive stimulation — they often deepen depression.

In contrast to such "seesaw" effects, Deprol's smooth, balanced action lifts depression as it calms anxiety — both at the same time.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. Supplied: Bottles of 50 light-pink, scored tablets. Write for literature and samples.

Acts swiftly - the patient often feels better, sleeps better, within a few days.

Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly—often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

Acts safely - no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function-frequently reported with other anti-depressant drugs.

'Deprol'



now-for more comprehensive control of



-pain due to or associated with -spasm of skeletal muscle a new muscle relaxant-analgesic

Robant WITH ASPIRIT

Many conditions, painful in themselves, often give rise to spasm of skeletal muscles. ROBAXISAL, the new dual-acting muscle relaxant-analgesic, treats both the pain and the spasm with marked success: In clinical studies on 311 patients, 12 investigators reported satisfactory results in 86.5%. Each ROBAXISAL Tablet contains:

- An analgesic component—aspirin—whose pain-relieving effect is markedly enhanced by Robaxin, and which his added value as an anti-inflammatory and anti-rheumatic agent....(5 gr.) 325 mg.

SUPPLY: ROBANISAL Tablets (pink-and-white, laminated) in bottles of 100 and 500.

Also evailable: NOBAXIN Injectable, 1.0 Gm. in 10-cc. ampul. ROBAXIN Tablets, 0.5 Gm. (white, scored) in bottles of 50 and 500.

... or when auxiety accompanies pain and sparm: ROBANISAL'S-PH (Robanin's with Phenaphen's). Sedative-enhanced analysis and skeletal muscle relaxant. Each two vehite-and-green laminated Robanisat. PH tablets contain: methocarbanol 200 mg., plus the equivalent of one Phenaphen capsule (phenacetin 194 mg., acetylsalicylic acid 162 mg., byoscyamine sultate 0.031 mg., and 14 gr., phenobarbital 16.2 mg.). Bottles of 100 and 500.

C Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., B. Holmbird, Schemettedy, N. Y., L. Levy, New York, N. Y., N. Lobus, C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., L. Levy, New York, N. Y., N. Lobus, R. C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. C. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. G. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. G. Freeman, Jr., Auguss, Ga., R. B. Gooden, New York, N. Y., J. Levy, New York, N. Y., N. Lobus, R. G. Freeman, Jr., Auguss, R. G. Freeman, Jr., Augu



Additional information available upon come

A. H. ROBINS CO., INC., Richmond 20, Virginia

ALL OVER AMERICA! KENT with the **MICRONITE FILTER** IS SMOKED BY MORE SCIENTISTS and EDUCATORS

than any other cigarette!*

| | | | | 7 | | |
|--|-------|--|---|-----------|---------------------------------------|--------------|
| FIVE TOP BRANDS OF CIGARETTES | | | T WELL | | | |
| SMOKED BY AMERICAN SCIENTISTS | | | | SE RY | THE RESERVE | |
| KENT | 15.3% | | 202000 | Section 1 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| BRAND "A" | 10.5% | Substitution of the substi | SECTION 1 | | 1000 | |
| BRAND "G" | 7.9% | 50000 A | 100000000000000000000000000000000000000 | 133 | 1 | |
| BRAND "F" | 7.6% | 5050 A500 | | 25000000 | | 100 |
| BRAND "B" | 7.3% | 55 45535 | | | | |
| | 90350 | | 0000000 | ~ / | HARRIS | 73 71 |
| | | 7 | A 15 16 | 425.00 | | |
| FIVE TOP BRANDS OF CIGARETTES SMOKED BY AMERICAN EDUCATORS | | | THE PARTY OF | 107 | 通源 | 5 (8) |
| KENT | | BEET STATE OF | | 200000 | | . 653 |
| | 20.2% | | | 20000000 | | 7 |
| BRAND "E" | 7.7% | SHOW IN | | - Blancie | 450 | |
| BRAND "A" | 7.7% | EXECUTIVE A | | - | 1000 | |
| BRAND "F" | 7.0% | | | | 27-12 | 0 |
| | | | | | | 10 |
| | | 7 | | | Plane | |
| | | | 2007 | | | - |
| State Land Control of the Control of | | | 1000 | | | - |

their cigarette accordingly.

millions of other Kent smokers, tobaccos, and the free and smoke for pleasure, and choose easy draw of Kent's famous Micronite Filter.

If you would like the booklet, "The Story of Kent", for your own use, write to: P. Lorillard Company-Research Department, 200 East 42nd Street, New York 17, New York.

For good smoking taste, it makes good sense to smoke

KING SIZE

A PRODUCT OF P. LORILLARD COMPANY - FIRST WITH THE FINEST CIGARETTES - THROUGH LORILLARD RESEARCH



WHENEVER COUGH THERAPY IS INDICATED

HYCOMINE

THE COMPLETE RX FOR COUGH CONTROL

cough sedative | antihistamine decongestant | expectorant

■ relieves cough and associated symptoms in 15-20 minutes ■ effective for 6 hours or longer ■ promotes expectoration ■ rarely constipates ■ agreeably cherry-flavored

Each teaspoonful (5 cc.) of Hycomine* Syrup contains: Hycodan?

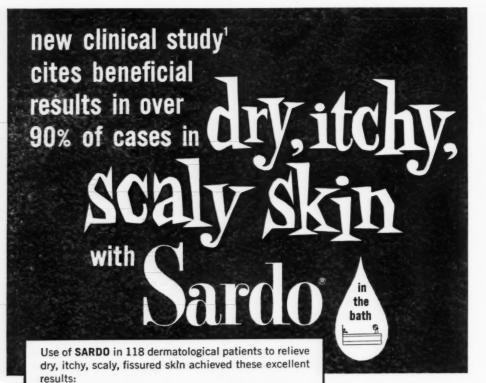
| Hycodan : | | | | | |
|---|--------|-----------|--------|----------|-----------|
| Dihydrocodeinone Bitartrate (Warning: May be habit-forming) | | | | mg.) | 6.5 mg. |
| Homatropine Methylbromide . | | | 1.5 | | 0.0 1116. |
| Pyrilamine Maleate | | | | 1 | 2.5 mg. |
| Phenylephrine Hydrochloride | | | | | |
| Ammonium Chloride | | | | | 60 mg. |
| Sodium Citrate | | | | | 85 mg. |
| Average adult dose: One teaspo | onful | after me | als an | d at b | edtime. |
| May be habit-forming. Federal law | v pern | nits oral | presci | ription. | |

Endo

Literature on-reques

ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Pat. 2.630.400



| CASES | AFTER | SARD | 0* | | | |
|---------------------------|-----------|------------|------|--|--|--|
| | Excellent | Good | Poor | | | |
| 49 Senile skin | 32 | 13 | 4 | | | |
| 26 Dry Skin in younger | | | | | | |
| patients (diabetes, etc.) | 14 | 11 | 1 | | | |
| 20 Atopic dermatitis | 8 | 10 | 2 | | | |
| 13 Actinic changes | 9 | 4 | _ | | | |
| 10 Ichthyosis | 3 | 4 | 3 | | | |
| Skin Conditions | Benefited | No Benefit | | | | |
| 20 Nummular dermatitis | 19 | 1 | | | | |

10 Neurodermatitis



SARDO acts^{1,2} to (A) lubricate and soften skin, (B) replenish natural emollient oil, (C) prevent excessive evaporation of essential moisture.

SARDO releases millions of microfine water-miscible globules to provide a soothing suspension which enhances the efficacy of your other therapy.

SARDO is pleasant, convenient, easy to use; non-sticky, non-sensitizing. Bottles of 4, 8 and 16 oz.

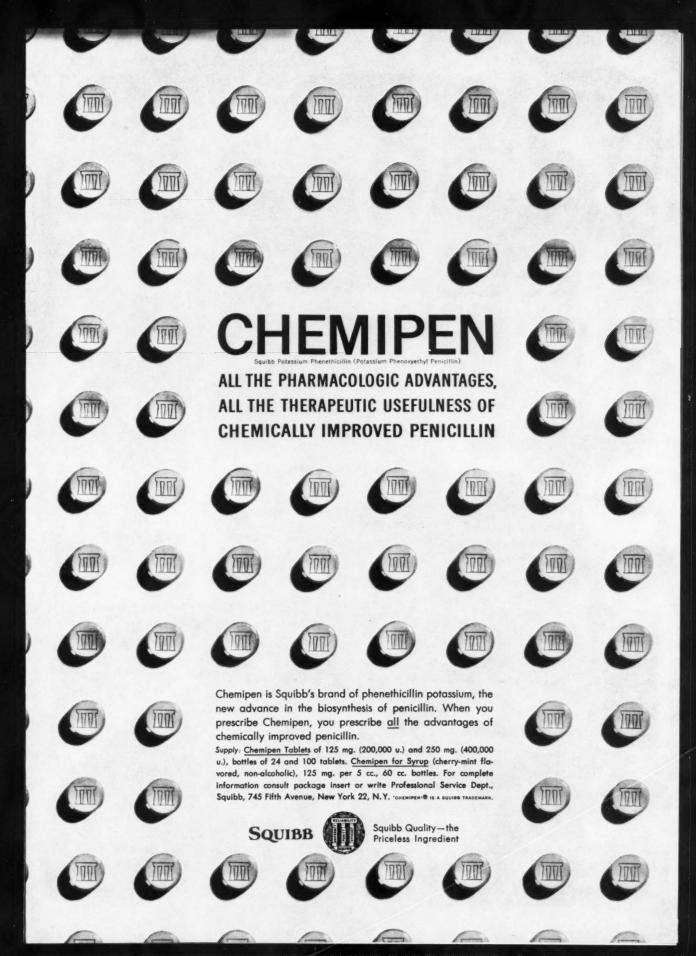
for SAMPLES and complete reprint of Weissberg paper, please write . . .

1. Weissberg, G.: Clin. Med., June 1960.

Spoor, H. J.:
 N. Y. St. J. Med.,
 Oct. 15, 1958.

*patent pending T.M. ©1960

Sardeau, Inc. 75 East 55th Street, New York 22, N. Y.







THE TOTAL COLD-THERAPY TABLET nasal decongestant · analgesic antipyretic · antihistamine

The ingredients combined in each 'Emprazil' tablet provide multiple drug action for prompt symptomatic relief of aches, pains, fever and respiratory congestion—due to common colds, flu or grippe—without gastric irritation.

Dosage: Adults and older children — One or two tablets t.i.d. as required. Children 6 to 12 years of age — One tablet t.i.d. as required.

Supplied: Bottles of 100 or 1000

Each orange and yellow layered tablet contains:

'Sudafed'® brand Pseudoephedrine Hydrochloride. 20 mg.

'Perazil'® brand Chlorcyclizine Hydrochloride 15 mg.

 Acetophenetidin
 .150 mg.

 Aspirin (Acetylsalicylic Acid)
 .200 mg.

 Caffeine
 .30 mg.

Complete literature available on request,



BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

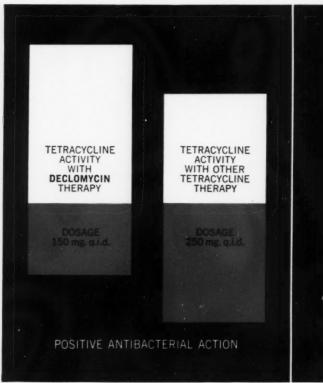
ECIONYCIN DEMETHYLCHLORTETRACYCLINE LEDERLE

attains sustains retains

> extra antibiotic activity

extra-activity...promptly attained

DECLOMYCIN Demethylchlortetracycline attains —usually within two hours—blood levels more than adequate to suppress susceptible pathogens. These levels are attained in tissues and body fluids on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. With other tetracyclines, the average, effective, adult daily dose is 1 Gm. With DECLOMYCIN Demethylchlortetracycline, it is only 600 mg.



) ECLO

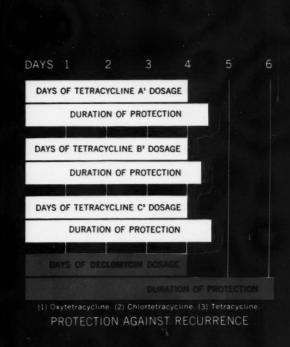
evenly sustained

DECLOMYCIN Demethylchlortetracycline sustains, through the entire therapeutic course, the high activity levels needed to control the primary infective process and to check the onset of a complicating secondary infection at the original—or at another—site. This combined therapeutic action is sustained, in most instances, without the pronounced hour-to-hour, dose-to-dose, peakand-valley fluctuations in activity levels which characterize other tetracyclines.

long retained

DECLOMYCIN Demethylchlortetracycline retains significant activity levels, up to 48 hours after the last dose is given. At least a full, extra day of positive antibacterial action may thus be confidently expected. One capsule four times a day, for the average adult in the average infection, is the same as with other tetracyclines — but the total dosage is lower and the duration of anti-infective action is longer.







- higher activity/intake ratio—positive antibacterial action
- sustained activity levels—protection against problem pathogens
- up to two extra days' activity protection against recurrence

CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections -1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

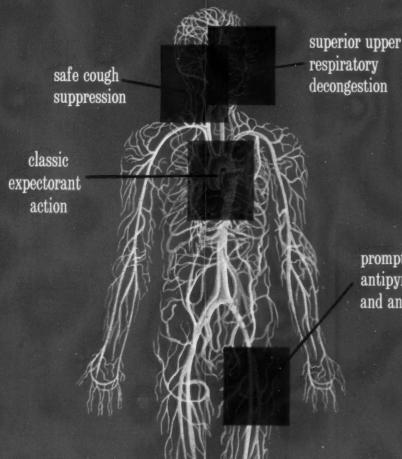
PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses. SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

for the added measure of protection in clinical practice PRECAUTIONS: As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under observation.



for relief from the total cold syndrome...



prompt antipyresis and analgesia

timed-release tablets/suspension

Each Tussagesic timed-release Tablet provides:

| TRIAMINIC® | | | | | | | | | | | 50 mg. |
|-------------------|------|-----|------|------|-----|------|------|------|------|--|---------|
| DORMETHAN | (bru | ınd | of d | lext | rom | etho | rphi | an I | HBr) | | 30 mg. |
| TERPIN HYDR | AT | E | | | | | | | | | 180 mg. |
| APAP (acetaminopi | hen) | | | | | | | | | | 325 mg. |

Dosage: Adults and children over 12 - one tablet in the morning, midafternoon and at bedtime. Each tablet should be swallowed whole to preserve the timed-release action.

Each tsp. (5 ml.) of Tussagesic Suspension

| TRIAMINIC® . | | | | | | | | | | | 25 | mg. |
|------------------|------|-----|------|------|-----|------|-----|------|------|--|-----|------|
| DORMETHAN | (bre | ind | of d | lext | tom | etho | rph | an l | HBr) | | 15 | mg. |
| TERPIN HYDR | AT | E | | | | | | | | | 90 | nig. |
| APAP (acetaminos | hen | | | | | | | | | | 120 | mg. |

Tussagesic Suspension is especially suited for children and for adults who prefer liquid medication; it is pleasantly flavored, nonnarcotic and non-alcoholic.

Dosage (to be taken every 3 or 4 hours): Adults and children over 12-1 or 2 tsp.; Children 6 to 12-1 tsp.; Children 1 to 6-½ tsp.; Children under 1 - ¼ tsp.

TRADEMARK

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska

In over five years

Proven

in more than 750 published clinical studies

Effective

for relief of anxiety and tension

Outstandingly Safe

- simple dosage schedule produces rapid reliable tranquilization without unpredictable excitation
- 2 no cumulative effects, thus no need for difficult dosage readjustments
- 3 does not produce ataxia, change in appetite or libido
- does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis
- 5 does not impair mental efficiency or normal behavior

Miltown

Usual dosage: One or two 400 mg, tablets t.i.d.
Supplied: 400 mg, scored tablets, 200 mg, sugar-coated tablets.
Also as MEPROTABS* – 400 mg, unmarked, coated tablets; and
as MEPROSPAN® – 400 mg, and 200 mg, continuous release capsules.

WALLACE LABORATORIES / Cranbury, N. J.

of clinical use...



... for the tense and nervous patient

Despite the introduction in recent years of "new and different" tranquilizers, Miltown continues, quietly and steadfastly, to gain in acceptance. Meprobamate (Miltown) is prescribed by the medical profession more than any other tranquilizer in the world.

The reasons are not hard to find. Miltown is a known drug. Its few side effects have been fully reported. There are no surprises in store for either the patient or the physician.

<u>NEW</u> analgesic

<u>Kills pain</u>



stops tension

For neuralgias, dysmenorrhea, upper respiratory distress, postsurgical conditions...new compound kills pain, stops tension, reduces fever—gives more complete relief than other analgesics.

Soma Compound is an entirely new, totally different analgesic combination that contains three drugs. First, Soma: a new type of analgesic that has proved to be highly effective in relieving both pain and tension. Second, phenacetin: a "standard" analgesic and antipyretic. Third,

caffeine: a safe, mild stimulant for elevation of mood. As a result, the patient gets more complete relief than he does with other analysics.

Soma Compound is nonnarcotic and nonaddicting. It reduces pain perception without impairing the natural defense reflexes.*

NEW NONNARCOTIC ANALGESIC

soma Compound

Composition: Soma (carisoprodol), 200 mg.; phenacetin, 160 mg.; caffeine, 32 mg.

Dosage: 1 or 2 tablets q.i.d.

Supplied: Bottles of 50 apricot-colored, scored tablets.

NEW FOR MORE SEVERE PAIN

soma Compound + codeine

BOOSTS THE EFFECTIVENESS OF CODEINE: Soma Compound boosts the effectiveness of codeine. Therefore, only ¼ grain of codeine phosphate is supplied to relieve the more severe pain that usually requires ½ grain. Composition: Same as Soma Compound plus ¼ grain codeine phosphate.

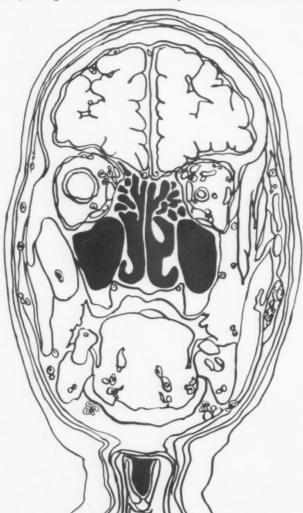
Dosage: 1 or 2 tablets q.i.d.

Supplied: Bottles of 50 white, lozenge-shaped tablets; subject to Federal Narcotics Regulations.

*References available on request.

for acute upper respiratory infections Capsules

effective control of pathogens...with an unsurpassed record of safety and tolerance



BRISTOL LABORATORIES, SYRACUSE, NEW YORK Div. of Bristol-Myers Co.



SUPPLY: TETREX Capsules — tetracycline phosphate complex — each equivalent to 250 mg. tetracycline HCl activity. Bottles of 16 and 100.

TETREX Syrup — tetracycline (ammonium polyphosphate buffered) syrup — equivalent to 125 mg. tetracycline HCl activity per 5 ml. teaspoonful. Bottles of 2 fl. oz. and 1 pint.



WHY IS SPEEDIER SPERMICIDAL ACTION IMPORTANT?

Because a swift-acting spermicide best meets the variables of spermatozoan activity.

Lanesta Gel, "...found to immobilize human spermatozoa in one-third to one-eighth the time required by five of the leading contraceptive products currently available . . ."* thus provides the extra margin of assurance in conception control. The accelerated action of Lanesta Gel—it kills sperm in minutes instead of hours—may well mean the difference between success and failure.

*Berberian, D. A., and Slighter, R. G.: J.A.M.A. 168:2257 (Dec. 27) 1958.

In Lanesta Gel 7-chloro-4-indanol, a new, effective, nonirritating, nonallergenic spermicide produces immediate immobilization of spermatozoa in dilution of up to 1:4,000. Spermicidal action is greatly accel-

erated by the addition of 10% NaCl in ionic form. Ricinoleic acid facilitates the rapid inactivation and immobilization of spermatozoa and sodium lauryl sulfate acts as a dispersing agent and spermicidal detergent.

Lanesta Gel with a diaphragm provides one of the most effective means of conception control.

However, whether used with or without a diaphragm, the patient and you, doctor, can be certain that Lanesta Gel provides faster spermicidal action — plus essential diffusion and retention of the spermicidal agents in a position where they can act upon the spermatozoa.

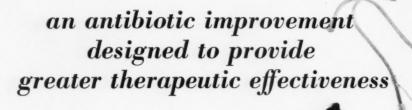


L'anesta Gel

Supplied: Lanesta Exquiset . . . with diaphragm of prescribed size and type; universal introducer; Lanesta Gel, 3 oz. tube, with easy clean applicator, in an attractive purse. Lanesta Gel, 3 oz. tube with applicator; 3 oz. refill tube — available at all pharmacies.

Manufactured by Esta Medical Laboratories, Inc., Alliance, Ohio Distributed by GEORGE A. BREON & Co., New York 18, N. Y.

A product of Lanteen[®] research





in a more acid-stable form assure adequate absorption even when taken with food

Ilosone retains 97.3 percent of its antibacterial activity after exposure to gastric juice (ph 1.1) for forty minutes. This means there is more antibiotic available for absorption—greater therapeutic activity. Clinically, too, Ilosone has been shown^{2.3} to be decisively effective in a wide variety of bacterial infections—with a reassuring record of safety.⁴

Usual dosage for adults and for children over fifty pounds is 250 mg. every six hours. Supplied in 125 and 250-mg. Pulvules and in suspension and drops.

- 1. Stephens, V. C., et al.: J. Am. Pharm. A. (Scient. Ed.), 48:620, 1959.
- 2. Salitsky, S., et al.: Antibiotics Annual, p. 893, 1959-1960.
- 3. Reichelderfer, T. E., et al.: Antibiotics Annual, p. 899, 1959-1960.
- 4. Kuder, H. V.: Clin. Pharmacol. & Therap., in press.

ELI LILLY AND COMPANY . INDIANAPOLIS 6, INDIANA, U.S.A.

032644

Lilly

NOVEMBER, 1960

Pelaware Medical gournal

NUMBER 11 VOLUME 32

THE "OPEN DOOR" FOR MENTAL PATIENTS

M. A. TARUMIANZ, M.D.*

The "open door" for mental patients is now a topic of considerable interest to personnel carrying major responsibility for the care and treatment of the mentally ill and seriously emotionally disturbed and to the general public as well. The meaning of the "open door" for mental patients varies widely. In some situations the term refers to one or more wards which have the doors open for a certain number of hours a day during which the patients may go in and out at will and unescorted. In one or two hospitals in the United States and Canada and in increasing numbers in Great Britain and some other European countries, the "open door" means the open hospital - in which all (or nearly all) the patients are maintained in wards which are unlocked and are without such security measures as grill work on the windows, security screens, and escorting personnel.

⁶State Psychiatrist; Superintendent of the Delaware State Hospital, Governor Bacon Health Center, Hospital for the Mentally Retarded; Director of the Mental Hygiene Clinics of Delaware and the Day Time Care Centers for Delaware.

The "open door" in the care and treatment of mentally ill patients is not a new philosophy. The present movement toward granting greater freedom to a high percentage of patients with various medical classifications represents an extension or, in some instances, a revival of procedures which existed 75 to 100 years ago. In his American Notes, published in 1842 after his visit to the United States, Charles Dickens, the nineteenth century humanitarian novelist, described essentially the "open door" policy in writing of the life of patients at the Boston State Mental Hospital, which was at that time called the Boston Lunatic Asylum¹. The Superintendent of Creighton Royal Mental Hospital in England in 1937, the year in which Queen Victoria came to the British throne, said of the treatment of patients in his hospital, "There is in this community no compulsion, no whips, no continued chastisement, simply because these are less effectual means of carrying

any point than persuasion, emulation, and the desire of obtaining gratification."²

In 1918 when the writer came to the Delaware State Hospital there was one ward completely open. A second ward was opened soon afterward. In addition, about twenty per cent of the patients had ground privileges. Many of the patients who worked in the various divisions of the Hospital went to and from their work unescorted. Through the years the number of patients privileged to go about the grounds unaccompanied, as well as to go alone into the city for shopping or other reasons, increased.

In 1948 when the Governor Bacon Health Center was established to provide residential care and treatment for psychotic, prepsychotic, and seriously emotionally maladjusted children, it was decided then to house the children in cottages the doors of which are open from morning until dark. Except when they are acutely disturbed, the children go unaccompanied to school, to the recreation areas, to the Infirmary, to the Child Guidance Building, and to any other buildings on the grounds as necessary.

When the State Board of Trustees assumed responsibility for the Hospital For The Mentally Retarded at Stockley in 1955, the "open door" philosophy was adopted. The cottages were unlocked, and many patients began to go from one area to another unescorted. A part of the training of these patients is designed to develop in them sufficient stability and sense of responsibility that they will be able to live successfully in the community.

The Underlying Philosophy

The philosophy underlying the extension of freedom to the mentally ill is fundamentally respect for the patient as a person and the growing acceptance of the idea that improvement in many mentally ill persons is facilitated by their participating as soon as possible in various aspects of normal living. Another important facet of the "open door" in the mental hospital is a belief that all procedures should be centered around

the goal of helping patients to improve and return to the community within a relatively short period. The public is involved in making the "open door" in the mental hospital a reality. Some of the security measures adopted in the mental hospitals through the decades reflected the prevailing fear and anxiety concerning mentally ill persons.

Began in Scotland

The present movement toward unlocking the ward doors as well as instituting other evidences of freedom for mental patients seems to have begun in Scotland in 1949 with the opening of all the wards at Dingleton Hospital, Melrose, under Dr. George Bell, the Superintendent.³ In 1952 Dr. D. Mac Millan at Mapperly Hospital, Nottingham, England, followed the plan adopted at Dingleton Hospital. The wards of another English hospital, Warlingham Park, near Croydon, were unlocked in 1953 under Dr. T. P. Rees,4 who included Delaware State Hospital in his visit to the United States in 1955. On June 5, 1956, the last closed ward at Central Mental Hospital, Hatton, England, was opened under Dr. Edward S. Stern, the Medical Superintendent.5 The Allan Memorial Institute under the direction of Dr. Ewen Cameron in Montreal, Canada, has spearheaded the movement in the Provincial Hospitals.⁶ Beginning in July, 1955, with the opening of one ward for only two hours in the morning and afternoon, Dr. Herman B. Snow, Director of St. Lawrence State Hospital, Ogdensburg, New York, by 1959 achieved a virtually open hospital.7 The Embreeville State Hospital at Embreeville, Pennsylvania, under Dr. Arthur Hecker is also almost completely open, as is the Central Islip State Hospital in Suffolk County, New York, under the direction of Dr. Francis J. O'Neill.

Interest in treating mental patients on open wards has been high in the past five years. Many public and private hospitals are experimenting with various programs providing greater freedom of movement for mentally ill patients. It is a mistake to think that any hospital for mental patients,

whether so-called 100 per cent open or not. exercises no control over the patients. Just as in a general hospital, patients are under the care of nurses who follow the physician's direction regarding the activities appropriate for the particular patient, in the mental hospital there are patients who must be under strict surveillance of personnel during some phases of their illness. In some hospitals with unlocked wards, elderly patients who are likely to become confused and lost go about only when other patients accompany them.8 The Superintendent at Coney Hill and Horton Road Hospitals, at Gloucester, England, experimenting with rapidly converting a closed hospital for mental patients into an open-door hospital, decided upon "the closed group" for patients who repeatedly eloped from the hospital.9 The group consists of six or seven repeated chronic escapers under the constant supervision of a nurse who is responsible for planning the daily program for these patients. All of these patients are chronically hallucinating and seriously out of contact with reality. Patients with strong suicidal or homicidal tendencies, when acutely ill, must be given protection against their hostile impulses. Experience with the open door for a psychiatric receiving service in a county hospital in California, showed the manic patients as the most difficult to treat in an open ward and depressed patients the next most difficult group.10 A hospital in which mentally ill criminals and psychopathic persons are treated under the law obviously cannot permit these patients freedom to move about at will.

Larger Staff Necessary

Opening ward doors does not mean turning seriously mentally ill and severely emotionally disturbed patients loose to wander aimlessly around. Nor does it mean that a hospital can reduce its staff. The purpose of the "open door" is to create a milieu in which the needs of patients can be met on an individual basis. With open wards every aspect of the patient's life is a part of the therapy and therefore must be carefully planned. More, not fewer, staff is necessary to plan and execute a program of activities

— social, industrial, medical, and psychological — which will be truly therapeutic for each patient. Such a program is different from the housekeeping and maintenance chores long a part of the hospital routine. An activities program which will contribute to the personality integration of the mentally ill or emotionally disturbed patient in residential care is one which gives him training for living outside the hospital and at the same time ego satisfaction as well as a sense of personal worth. Occupations and recreational activities away from the ward are quite important.¹¹

One of the most interesting accounts in the recent literature on the open hospital is that of the Psychiatrische Inrichting Francker, a 750 bed hospital in the town of Franeker, in the Netherlands.12 The buildings of this hospital were once part of a university and are located along the principal canal and main street of the town. All day long more than a score of doors in this hospital are unlocked and unguarded. Through these doors go patients to the numerous workshops established by the hospital. At this Dutch hospital the principle followed is that all patients must work, regardless of their age, provided they are not somatically ill.

Work of Volunteers Important

At the Delaware State Hospital all but one of the wards are open in the new Willard Springer, Jr., Building in which acutely ill and convalescent male and female patients are treated. The Observation Clinic has always been entirely open. Five other wards are now open. Very full social and industrial therapy programs provide meaningful activities which, as adjuncts to psychotherapy and chemotherapy, help to rehabilitate the patients. The work of volunteers has played an important part in the opening of wards at the Delaware State Hospital. Volunteers have been "ambassadors of good will" for the Hospital. They have performed a significant service in helping to dissipate the general fear of the mentally ill. Many of the volunteers have worked among seriously ill patients and

know that even this group responds, to some extent, to the efforts of others in their behalf.

Attitude of Staff Stressed

All through the literature reporting the experiences of hospitals providing greater freedom for mentally ill and emotionally disturbed patients in residential care, the importance of the attitude of the staff is stressed.¹³ It is essential that all personnel, particularly nursing and attendant staff, value even the most deteriorated patient as a personality. The staff must also be oriented around the philosophy that most mentally ill persons can recover if given proper treatment in time. Some of the resistance of personnel to the idea of giving greater freedom to hospitalized mentally ill patients is due to apprehension that they will be held responsible if some mishap occurs involving a patient. The Administration must reassure the staff that such will not be the case if all perform their duties diligently.

Freedom Removes Incentive To Leave

According to the reports of superintendents and other personnel of hospitals in which the doors have been opened, the rate of suicides and elopements has not increased.¹⁴ In fact, the opposite situation has been the general rule. In a few instances in which there were more escapes immediately following the opening of the wards, soon fewer patients escaped.15 At the St. Lawrence Hospital in New York State, the elopement rate was drastically reduced after the wards were opened.16 Without the challenge of locks and other usual security measures some of the escapers had no incen-

tive to leave. Other positive results of these changes in patient care and management appear to be less tension and aggression among patients, even the acutely ill. Mentally ill patients, like most other people, seem to act according to the expectations of others regarding them. The truth of a physcian's observation that, "angry aggression appears to be closely related to a specific stimulus in the immediate environment"17 is supported by the behavior of patients who are being treated under the philosophy of trust and individual worth.

Not a Panacea

Extensive study of the various programs and plans for the "open door' 'for mental patients indicates that the unlocking of wards is not a panacea. It is only symbolic of a movement toward providing for the mentally ill and emotionally disturbed the most effective treatment to meet their individual needs. It should be realized that there will always exist a small number of patients whose most effective treatment will involve some security measures, at least for a time. The "open door" is only one of a number of methods involved in the recent emphasis on various types of treatment to help the patient improve and return to the community as speedily as possible. To make this policy truly operative the resources of community agencies, both public and private, as well as the support and aid of individuals must be mobilized. The "open door" must really be an open acceptance of the mentally ill patient as a person of dignity and worth and one, for the most part, able to live effectively outside the hospital after treatment.

[&]quot;Laying the Foundations for An Open Mental Hospital."
Mental Hospitals, Vol. 9, No. 2, February, 1958, P. 11, See
also C. P. Seager, "An Interim Report on Opening Hospitals
in Great Britain," Mental Hospitals, Vol. 11, No. 4, April,

^{1960.} p. 21.

2. J. E. Gilbert. "Uses Of The Past—The Open Door Philosophy," Mental Hospitals, Vol. 11, No. 4, April. 1960, p. 20.

3. Edward S. Stern, "Open Wards In Large Mental Hospitals," The International Journal Of Social Psychiatry, Vol. 4, No. 4, Spring, 1959, p. 299, (Reprint).

Ibid.
 Edward S, Stern, "Operation Sesame," The Lancet, March 16, 1957, p. 3, (Reprint).
 Mathew Ross, "The Citizen And The Open Mental Hospital," Address to The American Psychiatric Association.
 Herman B, Snow, "Open Ward Policy At St. Lawrence State Hospital," The American Journal of Psychiatry, Vol. 115, pp. 779-789.

^{115,} pp. 779-789.
"The Open Door Concept," Mental Hospital, Vol. 9, No. 5, May, 1958, p. 33.

Bertram Mandebrote, "An experiment in the rapid conversion of a closed mental hospital into an open-door hospital," Mental Hygiene, Vol. 42, No. 1, January,

version in a carrier version version in a carrier version via a carrier version versio

CHROMOSOMAL ABNORMALITIES

Mental Deficiency and Disease of the Endocrine

Despite the phenomenal advances in our knowledge of the human chromosomal abnormalities, the subject is scientifically at the level of identification and correlation to "nature's experiments in human development."

CHARLES WILLIAM DUNN, M.D.*

The cretin establishes the role of thyroid agenesis and heredity in mental deficiency. Myxedema, the acquired severe form of thyroid deficiency, produces mental impairment, psychosis, and a cerebellar ataxic syndrome⁶. Thyroid therapy will relieve the myxedematous manifestation but is of limited value in the mental deficit of cretinism. In cretinism the cerebral pathology is irreversible and developmentally acquired; whereas in myxedema it is established within previously normal tissue and the pathology is not developmentally acquired.

The value of endocrine therapy in developmental deficiencies must be assessed by the value of its procurable therapeutic end results upon the individual endocrine deficiency syndrome.

Currently, epochal scientific advances have been made in sex chromatin studies of the nucleus of the human cell and of the chromosomal constitution of the human

cell. Barr1 and others have demonstrated that a study of the nucleus of the human cell permits identification of the sexual source of the cell. Ford and Jacobs² and others have been able to culture human cells of the bone marrow and determine the normal chromosomal constitution, including the sex genes, Female X and Male Y. Barr's discovery permits differentiation of the somatic state on a sexual basis by nuclear sex chromatin determination. The basis of the test is the identification of a distinct nuclear small mass, separate from the main nuclear mass and lying against the nuclear membrane. This mass is postulated as representing an X gene and thus a predominance of these type cells within a given count of cells indicates an XX, positive female sex chromatin, female somatic genotype.

The true sex genesis of the human is determinable only by human cell culture and cell study in the chromosomal state. Ford and Jacobs accomplished this and found that instead of 48 chromosomes, as had been accepted for years, there were

^{*}Visiting Endocrinologist; Delaware State Hospital, Governor Bacon Health Center, Hospital for the Mentally Retarded and the Mental Hygiene Clinics of Delaware, Consulting Endocrinologist, Delaware Hospital, Wilmington, Delaware.

only 46 chromosomes in the human cell. The 46 chromosomes consisted of 22 pairs of autosomes and a pair of sex genes. XX for the female and XY for the male. The autosomes posessed structural features which permitted them to be arranged in pairs and the pairs in groups. At a recent conference⁷ the pairings were given an official classification so that uniformity of reporting could be accomplished.

The conference was required because, within a period of a few years, research in human chromosomes had become world wide and investigative evidence of anomalies within the sex chromosomal state was rapidly accumulating. If the human pattern is akin to that known to occur in experimental genetics of the fruit fly, then it is possible that autosomal anomalies may enter into the problem of sex and somatic determinations.

Wide Knowledge Required

Presently the scientific investigations in this field are being directed towards procuring as wide a knowledge as is possible of the various types of sex chromosomal combinations which are occurring in the human who is representative of an "an experiment in human development."

Danon and Sachs³, eminent geneticists, investigated the sex chromatin nuclear pattern of various endocrine deficiency states with gonadal deficits and developmental abnormalities and confirmed the reported findings of male sex chromatin in Female Turners Syndrome and Female Sex Chromatin in many Klinefelters (male eunuchoidism) Syndrome.

Danon and Sachs made a classification of human intersexes based on the Gonads and; from the clues which the "relative discrepancy from the phenotype to be expected from their Chromosomal formula"; they conceived abnormalities of the X gene as XO, XXY and XXX and the possibilities of mosaics, mixtures of XX and XY.

All these predicted chromosomal anomalies have been demonstrated and XXX (XY) and XXXY are now reported. The

major observation being that even in the presence of testes a female "sex chromatin" and "chromosomal pattern" may be present.

Danon and Sachs theoretically assume for man three sets of casual factors for intersexuality; (1) Genes, presumably single gene mutation; (2) Abnormal distribution of sex chromosomes (XXY, XO and etc.); (3) Endocrine dysfunction induced by external factors or by genetic factors affecting the endocrine system. They include in the intersexual groups "individuals whose anatomical features (even if only secondary sex characteristics) belong to both sexes or display exterior hypogenitalism."

Turners Syndrome

Heredity alone may be the sole factor in a developmental anomaly as in coarctation of the aorta in males; this genetic key was significant to Lennox who noted a high incidence of coarctation of the aorta in Turners Syndrome (Ovarian Agenesis) and studied the sex chromatin nuclear pattern in Turners Syndrome and found that most patients were male sex chromomatin negative. It was later found when cell culture was available that in Turners Syndrome there were 47 chromosomes present and the sex genes were XO.

It is evident that in Turners syndrome the developmental anomaly and the gonadal agenesis are both hereditary and endocrine defects that are developed from within the chromosomal abnormality.

It had been a premise that the male sex gene Y was capable of masculinizing the soma and the undifferentiated gonad, since it overcame the feminine determinant effects of an X gene. In Turners syndrome we have no Y gene yet the soma is male in type. To explain this it must be assumed that the X gene is feminine weak or that an autosome carries the "M"³ potency. Klinefelters Syndrome's patients with an XXY sex genetic pattern do however support the premise that two X genes are stronger than one Y gene, because despite the presence of a hypoplastic male gonad about half of Kleinfelters patients are sex

chromatin positive (female), and have distinct feminoid personalities. In some patients there is also a degree of mental deficiency which varies from mild to major degrees.

Apparently the XXY gene and the associated 47 chromosomal pattern represents the point in chromosomal abnormalities where mental and gonadal deficits are correlated at an etiologic level, because as the XXXY chromosomal pattern was found we find amentia existing and a more severe degree of gonadal deficiency present.

Mongolianism — Gain of One Chromosome

Mongolianism did show concrete evidence of being associated with abnormal chromosomal constitution. In mongolianism the abnormality consists of the presence of 47 chromosomes, a gain of one chromosome. This gain of a chromosome occurs in the "21 group" of autosomes and results in a trisomic autosome in this group replacing two pairs of the group. The sex genes are undisturbed.

In mongolianism we have not observed any hypogonadal states which were unattributable to an endocrine deficiency.

The clinical endocrine picture which we have conceived as existing in Mongolism is one of an anterior pituitary-thyroid deficiency and this is featured by a varied degree of this functional deficit observed in the individual mongolian. Whereas the endocrine deficits vary in the individual mongolian, the variance in mental capacity is not as marked. Further we cannot correlate the severity of the endocrine deficit to the degree of the developmental deficit. We do believe that hypothyroidism does augment the congenital functional deficit due to the developmental cerebral pathology of mongolism; however this later feature must be considered to be an acquired mental deficit and distinct from the pathologic mental deficit.

It should be evident that if an attempt is going to be made to apply endocrine therapy to abnormalities of development in which a chromosomal abnormality is a basic coacting factor in the deficit development of mind, body and genitals; then we must develop a comprehensive, if not complete, patholigic survey of the patient.

The pathologic survey should determine the onset time of the pathology and its extent; the functional deficit the pathology induces and the degree of reversible and irreversible pathology present. The histologic features of the pathology should be known in the tissues and the organs. The condition of the glands within the endocrine system at the cellular level is of extreme importance to the therapeutists. Functional inadequacy at the cellular level must be determined to warrant hormonal therapy. This must be evaluated by established pathologic data or by precise functional tests or clinical stigmata.

The embarkation of a therapeutic hormonal programme on the basis of empiricism or a "shot gun" can only be uninformative in a scientific sense and is more likely to be ineffective or injurious.

Despite the predominant evidence indicating the important role of the endocrine system disorders as a coacting factor in chromosomal abnormalities, we are very far from portraying or designating their role of primacy in establishing the chromosomal abnormality.

Inception at Fertilization

It is evident that the chromosomal abnormality has its inception when the ova is fertilized. It is established that the three months old embryo has had its sex chromatin pattern established in its somatic structures, consequently, there is but one conclusion at hand, namely, at birth all cells are imprinted at the nuclear level with a chromosomal pattern.

Barr's test was performed on skin, buccal mucosa, bone marrow, the testes, vaginal mucosa, the polymorphonuclears of the blood, urinary sediment cells and the cells of the amiotic fluid and except in a rare instance or two, a uniformity of sex chromatin sexual type was determined, in all human cells examined.

DELAWARE MEDICAL JOURNAL

The endocrine therapeutist is confronted with the problem that it is patently impossible for him to design a therapeutic management which will attack cells at their reproductive and replacement level with a forcefulness sufficient to alter the chromosomal phase of reproduction.

The visionary hope of the therapeutist is that by means of endocrine therapy he may, in time, alter or direct towards normalcy the genic or autosomal mutation developmental path.

A therapeutic programme of this type has been accomplished by Wilkins' and others. Applying the principle that if adequate exogenous source of a hormone is made available to the body, the endocrine gland producing the hormone and its stimulator will go into a resting stage or into inactivity and atrophy; large dosages of cortisterone were administered to congenital adrenal cortical hyperplasia patients and adrenogenital syndrome patients. The results were that the intersexual state was altered towards normal and the masulinization of the female was effectively controlled and the physical external genital manifestations were in the main involuted. Functional capacity, on a physiologic sexual basis, was also established. The therapeutic result proves that where we have a single, specific hyperhormonal factor and, despite, its hereditary or congenital features; it is possible to overcome the intrinsic hormonal defect with a crash therapeutic programme.

Cells in Immature State

The pathology of congenital adrenal cortical hyperplasia is well established and its extent and ability to sclerose the internal genital structures is well known; one is led to believe that despite this pathology there remain adequate cells in an immature state to be stimulated to normalcy if their endogenous inhibitor is dissipated by therapy.

The crash corticosteroid therapy used in adrenal hyperfunctional states were not without their hazards as we demonstrated in corticosteroid therapy of arthritis. The biochemist has attenuated this risk of side and toxic effects by molecular substitutions into the corticosteroid ring which reduced the incidence of the side effects.

Complex Problem

The adrenal cortical states producing hypersteroidism are acute states of hyperfunction, whereas the majority of endocrine and chromosomal abnormalities are sustained, chronic conditions which are progressively manifested in the general developmental character of the respective sexes. In these circumstances the therapeutic problem is complex and general, because it is asked to cope with a functional and structural digression at the chromosomal level.

All hormones have a metabolic role in the human economy if we properly evaluate their range of action and a great area of this metabolic activity is in the body chemistry. This is quite distinct from our general concept of metabolism as oxygen consumption for energy and body temperature.

To a degree we have a knowledge of the chemistry of the chromosome in lower forms of life but we are unaware of any hormone which possesses the potential to interact with the chromosomal chemical constituents.

If the present trend of chromosomal investigation continues to direct its research for material into the mental hospital and we continue to find the more complex abnormalities of chromosomal sex genes in the mental patient, associated with the severer forms of developmental retardation — which are definitely related to endocrine abnormalities of function — it is not difficult to conceive that endocrine therapy must be explored in these mental patients.

The term, exploratory endocrine therapy, as we use it, does not mean that patients shall be administered hormones unscientifically. It means that the plan of therapy will adhere to the basic law of endocrine therapy we have maintained; namely that a hormone is only effective in an endocrine deficiency syndrome when its specific deficiency is present. The exploratory phase is in the long term therapeutic end point of

endocrine therapy upon the pretherapeutic deficits of development, mental, physical and sexual.

Endocrine therapy in this class of patients does not permit controls or blinds for comparative effects between treated and non-treated. Even in the class of patients in whom treatment is undertaken there is considerable variance in the degree of subnormalcy and in the retarded developmental pattern. Of the known endocrine states in which abnormal sex chromosomal constitution has been demonstrated, the most consistent developmental pattern is observed in Turners Syndrome and Ovarian Agenesis. It is noteworthy that also in this condition, estradiol compounds act most specifically and in a functional area.

Full Knowledge Not Reached

We do not believe that we have reached our full knowledge of human chromosomal anomalies and until we do it is hazardous to depart from the fundamental therapeutic rules we have observed over the past 30 years.

We have made exploratory ventures with endocrine therapy in Mongolism and Achondroplasia. In both clinical conditions we have established clinical evidence in the somatic tissues that an anterior pituitary and thyroid deficiency exists. Gonadal developmental deficits may or may not be present in these states but has been observed in our cases.

We have treated achondroplasia in both a young male and a young female and the results in both were successful in promoting growth and sexual development. The measure of beneficial results is best evaluated by stating that each parent had a sibling with achondroplasia at birth and the female child, first born of the female treated achondroplastic and the male child, sibling 3, of the male treated achondroplastic, were brought for corresponding endocrine therapy. The achondroplastic brother of the achondroplastic male acted as a non-treated control.

It can be concluded therefore that de-

spite the developmental benefits derived in the male and female achondroplastic; endocrine therapy did not stop the inherited chromosomal mutation when therapy is first instituted at ages 12 to 14 years. Corresponding endocrine therapy is producing corresponding developmental results in their infants with hereditary achondroplasia.

We have observed the long term results of endocrine therapy in Mongolians where we find a consistent developmental deficit pattern associated with anterior pituitary-thyroid deficiency. In the larger group of patients at the Hospital for Mentally Retarded we have had an opportunity to evaluate the results of up to 18 years of endocrine therapy and on the basis of the long term end result upon the developmental pattern and compare the endocrine treated Mongolian group with a much larger nontreated Mongolian group.

The endocrine treated Mongolians are superior in health and in their somatic development. The latter permits them to be integrated into the work force of the institution at a level where an economic saving is accomplished. In a major degree the work capacity is the result of the endocrine therapy preventing progressive mental deterioration and from therapy establishing a normal metabolic level which indirectly improves functional capacities.

Benda⁴ demonstrated the post-mortem examination of the anterior pituitary and the thyroid consistently indicated cellular pathology in these glands which was indicative of a subfunctional cellular state in the hormone producing cells.

Dangers Encountered

Since our therapeutic plan in Mongolianism was predicated upon producing a progressive and long term therapeutic end result we only administered subdeficiency dosage in order to maintain a consistent biophysiologic demand upon the endocrine glands. As the child advances in age up to 10-12 years the endocrine glands undergo successive periods of development to meet the advancing body mass and functional demand. The administration of endocrine dosage which effaces this physiologic demand results in the endocrine gland remaining in its infantile functional capacity, at least it does not fully develop at its normal physiologic curve of development.

Wide Range of Normalcy

No thyroid functional test is critical enough, because of the wide range of normalcy, to conform clinical hypothyroidism in the young developing child. Equally, we have no test accurate enough to determine that low dosage of thyroid is exhibiting a therapeutic response in the patient. We are required in both diagnosis and therapy to determine these states by objective and subjective indicators of lack of thyroid in the health and developmental pattern of the patient; in their functional capacities and in those somatic tissues which are responsive to the lack of thyroid hormone and improve their condition under thyroid therapy.

The effectiveness of maintained administration of thyroid gr. 1/10 was demonstrated in a very severe case of hereditary infantalism presenting the maximal possible degree of general developmental retardation with severe mental deficiency and mutism.

Case History

A female patient at H.M.R. is aged 22 years old. Her height is 31 inches and her weight is 21 lbs. These measurements are similar to her elder sister's who, at age 11 years died from pneumonia and was buried in a 32 inch casket. Her appearance is that of an elderly lady with prominent arcus senilis of her eyes. She is mentally deficient and is fearful, fretful, cries and moans almost constantly. She resists care and attention, appears very depressed and thrusts away her toys, dolls and even her food. The scalp hair consists of a small central lock of very fine, blond hair. There are a few dark, coarse pubic hairs-otherwise the skin is hairless. The skin is glistening and appears sclerotic. The skin is taughtly drawn over the facial bones and the subcutaneuos tissues in general. All bony eminences stand out prominently. In the pretibial areas pitting is demonstrable. The thyroid is not palpable. The heart and lungs are negative. The lower extremity muscles are in a spastic state and extension of the foot is present. The spasticity can be partially overcome by gentle, firm pressure. The external sexual organs are infantile female. A small introitus is visible. Mouth—edentulous. X-rays show that the epiphyses are closed. The sella is small and proportionate to the small sized skull. Vaginal cell sex chromatin study is positive, indicating a female genotype.

Our original examination of the patient indicated that somatic evidence of hypothyroidism was present but due to extreme and hopeless state of retardation of physical, sexual and mental development; (age 2 year old height and weight); and her mental agitation superimposed upon her mutism and mental deficit; our judgment was that endocrine therapy could contribute no long term benefit to this patient.

The mental state of "the little old lady" became "pitiable" and we yielded to the pleadings "of trying to do something to help her".

Thyroid extract U.S.P. gr. 1/10 daily was prescribed. Within six weeks a marked improvement in her mental state was noted in that she was becoming cheerful and sought attention. Later new growth of scalp hair appeared and there was a loss of pretibial pitting. The skin became less taught and the texture softer.

The change in personality was striking. She would sit on our laps and caress us whereas previously she shrunk away from us, she smiled and played with her toys.

At the end of 9 months of thyroid gr. 1/10 daily a bloody vaginial dishcarge was reported which persisted for 3 days and in small quantity. For a period of months regular cycles of vaginal bleeding occurred and general mental improvement was maintained. There was no evidence of growth stimulation, (Epiphyses were closed).

Thyroid dosage was increased monthly to observe any enhancement of therapeutic effect until 1/4 grain daily was administered. We felt that the increased thyroid dosage did not improve ovarian functional capacity and we were having evidence of hyperactivation and restlessness. At this time thyroid therapy was discontinued during a cycle of bleeding to determine the effects of withdrawal of thyroid therapy.

The next cyclic vaginal bleeding did not appear and within two months after stopping thyroid therapy a return to the pretherapeutic mental state was obvious. The hair ceased to grow and the new hair growth began to fall out. The skin was resuming its original appearance and pretibial pitting was reappearing.

The patient was untreated for about 9 months to define the full withdrawal effects and then therapy was resumed at gr. 1/10. The resumption of thyroid therapy again established its early ef-

fects upon the personality but at the end of 9 months of therapy the cyclic vaginal bleeding had not been reestablished.

During the period of cyclic bleeding a vaginal smear showed a mild estrogenic reaction. Vaginal smears during resumption of therapy were not estrogenic positive.

She developed virus pneumonia at this time and succumbed to the infection.

Thyroid therapy, 1/10 grain daily established a primary functional response in the ovary of this severely underdeveloped female then at age 23 years. It stimulated hair growth and improved the characters of the skin, dissipated pretibial pitting and produced a profound and startling benificent improvement in her psyche and mental state. Withdrawal of thyroid therapy, after an increase of dosage had failed to establish an enhanced effect of therapy; resulted in a prompt loss of cyclic vaginal bleeding which had been maintained for months under therapy and stoppage of hair growth with a regression of the improved state of the skin to its previous characeristics.

Long-Term Effects

We feel that in this severely retarded and adult patient we have firmly established the long term therapeutic effects upon development and function of thyroid gr. 1/10. It is this same principle which we maintain therapeutically in clinical underdevelopment of growth and sex in children and with success; provided thyroid deficiency can be clinically established in the general clinical picture of the patient.

The therapeutic problem for consideration is to what level of rationality and effectiveness can we apply our therapeutic experience of the past 30 years to the problem of chromosomal abnormalities demonstrated present in the human and in particular during infancy and childhood and in mental deficiency. There is in the very near future no reason why chromosomal abnormalities should not be determined in the antenatal period of life in suspected hereditary carriers.

Our opinion is that when a fuller knowledge of chromosomal abnormalities is at hand and their relationship to mental deficiency and mental disturbances are more firmly defined; the coexistence of the endocrine deficiencies with these mental states

will indicate the importance of correcting hormonal deficiency during the developmental years and instituting therapy as early as possible.

Role of Therapy Must Conform

The therapeutic outlook must be based as was demonstrated in Mongolism, upon the long term end results on the involved systems and functions. The dosage of hormones administered during the developing years must be proportionate to the normal endogenous bio-physiologic thrust of the age period. Basically the role of therapy must conform to the normal yearly developmental increment and not be constituted to surpass natural yearly developmental phenomena. Invariably therapeutic attempts to supersede these hereditary normal yearly forces brings short term impressive results but a sacrifice of the optional long term results procurable when nature's laws of normal yearly increments of development are respected.

We conclude that the presence of chromosomal abnormalities; definite endocrine deficiencies with developmental retardation and mental deficiency in a patient draws direct attention to the endocrine deficiency and the probable role of endocrine therapy in this class of patients. It must be noted that the thyroid, the anterior pituitary, the adrenal cortex and the gonads are directly active in effecting cell growth and its maturity. Both the hypofunctional and the hyperfunctional states of these glands clinically demonstrate their respective roles in retarding and accelerating growth and development.

Chronological Growth

The initial therapeutic approach of therapy in this class of patients must de devised on the premise that the optimal therapeutic effects procured are consistent with and chronological with the normal curves of growth and development. Definitive information on the long term value of endocrine therapy in developmental deficits associated with chromosomal abnormalities may be procured. If long term therapeutic end re-

DELAWARE MEDICAL JOURNAL

sults demonstrate that developmental gains have been obtained; it then may be possible to adjust therapy to establish a further therapeutic improvement.

We have maintained the foregoing premises because it is possible in the developmental deficiencies, because of the extreme degree of retardation usually present, to procure flashy therapeutic results with short term crash therapies. In the process of doing so we consume all the potential of growth within all the cells and ultimately the cells predestined for replacement are also untimely consumed. The therapeutic end result here is complete cessation of development and insensitivity to further therapy.

Formidable Task

It must be acknowledged that the therapeutic task in patients with chromosomal abnormalities is formidable. In most respects the mongolian represents this class of patients and their chromosomal abnormality is established. We have determined at H.M.R. that starting endocrine therapy during early infancy in the mongolian is superior to withholding therapy until age two years as was our former practice. The need for early therapy was indicated by the presence of endocrine and cerebral pathology at birth in the mongolian. At the end of six months the infant has lost the carry over effects of the maternal hormones and it is at this period the deterioration of the untreated mongolian begins to be manifested and institution of therapy at this period is warranted.

In determining the endocrine therapy in the abnormal chromosomal class of of patients we will unquestionably have to pursue a therapeutic management plan which is primarily directed to the endocrine features of the individual patient and begin the therapy in infancy and assess the yearly therapeutic results to the normal curves of growth and development as they are defined and available. In substance this means that to procure optimal results and scientific conclusions of clinical value the endocrine therapy must be planned, adjusted and critically analyzed as the age of the patient advances.

REFERENCES

- The Detection of Chromosomal Sex in Hermaphrodites: Moore, K. L.; Graham, M. A. and Barr, M. L.; Surg. Gynec & Obs.; 96: 649, 1953.
- Ford, C. E.; Jacobs, P. A.; and Lathja, L. C.; Nature: 1 81: 1565. 1958.
- Danon, M. and Sachs, L.; Sex Chromosomes and Human Development; Lancet: 2:20, 1957.
- 4. Benda, C. E., Mongolism and Cretinism; Grune and Stratton,
- Wilkins, L., The Diagonsis and Treatment of Endocrine Disorders in Children and Adolescence. 2nd Ed. C. C. Thomas,
- Jellinek, E. H. and Kelly, R. E., Cerebellar Syndrome in Myxedema, Lancet: 2: 225, 1960. A Proposed Standard System of Nomenclature Of Human Mitotic Chromosomes Lancet: 1: 1063, 1960.

Writer's Workshop

A medical writer's workshop will be held in connection with the Fall meeting of the Delaware Valley Chapter of the American Medical Writer's Association Monday, December 19th, at the Philadelphia County Medical Society Building, 21st & Spruce, Philadelphia. Time: 3:30 to 5:30 P.M. Manuscripts for review should be submitted before December 1st to: Julian Sterling, M.D., c/o Albert Einstein Medical Center, Old York and Tabor Roads, Philadelphia, 41. Registrations may be made at the Journal office—no fee. Cocktails and dinner preceding the evening meeting of the Association are optional (small fee) for interested writers.

THE SCHOOL

A Factor in Emotional Problems and Delinquency in Children

What is the relationship between poor academic achievement, juvenile delinquency, and the curriculum?

HARRY S. HOWARD, M.D.*

LEON PETTY, M.S. **

A considerable portion of the adolescent and pre-adolescent patients examined at the Mental Hygiene Clinics in Delaware as well as in other clinics has been involved in some type of activity which may be related to emotional difficulty and more specifically, to delinquency. This behavior covers a variety of transgressions against social patterns and undoubtedly is multicausal in origin. Thus the home situation, family economic circumstances, inherent characteristics, etc., are all involved in the etiology and in the dynamic development of these patterns of behavior. Of course, too, these delinquent patterns are followed through and have been observed at this clinic going on into the adulthood of some of the patients. These antisocial activities have been seen to continue into adult life.

As noted above, etiologic factors are multicausal but the authors feel that since the child spends much of his waking time in

school, the contributing factor of the school environment needs further consideration and evaluation. All of the agencies mentioned above have been considered as being "attacked" by the delinquent activity of the acting-out individual but little thought has been given to the concept of these agencies as the "attacker" and against which a defense must be built up and retaliatory measures must be taken.

Psychiatric and psychological evaluations of the individuals point out certain reaction tendencies early in life and reveal, at the same time, certain academic problems with test results which have come to be considered as almost classical — i.e., significant reading deficiency with arithmetic scores higher than reading scores, with limited vocabulary and with performance test scores higher than verbal. In these individuals, attention span is limited and interests are predominantly mechanical and manipulative rather than academic.

^{*}Clinical Director, Mental Hygiene Clinics. **Clinical Psychologist, Mental Hygiene Clinic.

DELAWARE MEDICAL JOURNAL

These tendencies then, existing in the school environment where the academic is stressed and where the short attention span is equated with "badness," produced further emotional stress with increased hostility to the "rejecting" school, to adult authority, and a vicious cycle is established. Attempts at pressure in academic areas, even under the guise of assistance, produced frustration and such activities on the part of the school, as special reading help, are viewed with suspicion and hostility and with an increased degree of loss of self-esteem by the individual involved.

The authors are well aware of the fact that the reaction of these children are multicausal. This has already been mentioned. It is obvious that some children come to school well-poised emotionally mature and ready for the interests at hand while others do not. However the authors wish to stress the role of the school as the "attacker" as well as the "attacked" and the effects of the academic problem, and more specifically, the reading disabilities, on the total emotional life of the individual, on the feelings of frustration, inadequacy, and the subsequent resentment. All reading activities and all the school activities come to be seen as dangerous to the child and avoidant activities replace good motivation. Though it is obvious that a variety of reactions may take place - neurotic, habit disturbance, or actingout behavior, the latter reaction is most common and creates the greatest amount of "problem."

Random Samples

With these thoughts in mind the authors selected a random sample of adolescents who had already been adjudged delinquent and had been committed to the Youth Services Commission (the Delaware authority for rehabilitation of youthful offenders). This sample consisted of fifty children ranging in age from 8 to 16 years. Each of them had been given an individual general intelligence test and an academic test at the clinic usually after they had been committed to the Youth Services Commission. While it is obvious that the sample is not really a true

representative random sample of the population at large, it was felt by the authors that this sample would give some information regarding the contributions of the school to the emotional disturbance and the reactions of the child.

Results of the Investigation

The individuals involved achieved intelligence quotients ranging from borderline level to intelligence at a superior level. Table I gives the distiribution of the quotients by sex. It should be noted that the majority of these youngsters were of average or better intelligence though the proportion in the mildly limited group was somewhat larger than the general population (estimated).

Table I — Intelligence Quotients

| | 70-79 | 80-89 | 90-109 | 110-119 | 120 | and above |
|--------|-------|-------|--------|---------|---------|-----------|
| Male | 7 | 6 | 15 | 1 | 2 | 31 |
| Female | 6 | 1 | 11 | 1 | Managar | -19 |
| | 13 | 7 | 26 | 2 | 2 | 50 |

The reading grade achieved on the achievement tests ranged from 1.4 to 11.1 with the actual grade completed in school ranging from grade 2 to 11. However the expected grade (as related to actual age) yielded a range of 3.2 to 12.8. Thus when the academic achievement grades are compared to actual grade placement they are only slightly low but when compared to the expected grade reveal a discrepancy of approximately two years all the way down the line. The mean difference between the actual grade placement and the achievement test grade varies from .3 to 6 grades of reading disability. The discrepancy between the grade placement and the theoretical grade varied from 0 to 9 years of reading retardation.

Table II summarizes the mean difference between the actual grade placement and the achievement and theoretical grade level.

Table II

| No. of years retarded | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Achievement test grade | 15 | 10 | 10 | 3 | 10 | 1 | 1 | 0 | 0 |
| Theoretical grade level | 5 | 8 | 6 | 6 | 6 | 8 | 4 | 6 | 1 |

The significance of the above results then indicates that over half of the samples show

a significant discrepancy (more than one year of actual reading retardation) between the achievement test grade and the actual grade placement and that this discrepancy becomes more marked when one considers the grade expected as based on the number of years in school. In the latter case, approximately 90% of the sample shows more than one year of reading retardation. It is also noted that though the intellectual level (other conditions being equal) of the individual affects his reading ability, the variation for the population sample was considerably greater in those subjects with average than in those with below average intelligence even though most of the latter group were placed in grades above their achievement level. Although the disability varies with the intelligence, it is nevertheless widespread for the group studied and, according to our findings, is more prevalent in males than in females. Though we cannot account for this latter factor on the basis of our small study, it is suspected that the need for achievement in the male is greater than in the female and so he suffers a greater loss of self-esteem and greater reaction.

Also it is noted that though a large proportion of the samples achieved an intelligence quotient below the average range, their actual expected grade levels reflect their inability to learn to read but that they differ from the average and above average only with respect to the fact that the latter group showed a greater range than the former in terms of retardation. With increasing levels of academic retardation, greater frustration and acting-out behavior was exhibited by the group with average and above average intelligence. Thus there appears to be a strong indication of positive correlation between academic disabilities, particularly related to reading and actingout behavior and/or delinquent behavior.

Summary and Conclusions

Findings on this limited sample show the high correlation between reading disability and acting-out behavior:

- The vast majority show a typical pattern of reading disability.
- 2. We found that the discrepancy between the expected grade and achievement grade varied from 0 to 9 grade levels of reading retardation and that this is a greater amount retardation than the discrepancy between theoretical and achieved grades.
- The discrepancy between the individuals of limited intelligence is not as great as that for the average and above average I.Qs.
- As has already been indicated, there appears to be a strong correlation between reading difficulty and actingout behavior.

It is the conclusion of the authors that the school curriculum plays a significant role in the development of delinquent patterns and that the cessation of academic pressure, particularly as this involves reading activities (those school subjects which involve reading directly) might best be considered and a substitution of "action" activities (such as might lead to skilled or some unskilled employment) be substituted. This matter of loss of self-esteem which accrues to the individual by the academic limitations would be eliminated or at least reduced and a source of ego gratification might be substituted. It was the considered opinion of the authors that this program would tend to diminish frustration, reduce the feelings of inadequacy which is so common in this group and so increase the individual's self-esteem.

It is also the opinion of the authors that special studies are needed to develop special teaching methods with children who, even in the first grade, are already showing the "tendencies" and that these methods must cater to the "practical" reading which would be required for "action" activities.

REFERENCES

Betts, E. A., Foundations of Reading Instructions, New York: American Book Company, 1946. Bond and Tinker, Reading Difficulties, New York: Appleton-Century-Crofts, Inc., 1957. Blanchard, P., Reading Disabilities in Relation to Maladjustment, Mental Hygiene, 1928, 12, 772-778.

Intensive psychiatric treatment can be helpful in severe psychiatric disturbances in children.

PRE-PSYCHOTIC, AND PSYCHOTIC

Louis J. Kowalski, M.D.*

The need for special facilities in which children with severe emotional disturbances might be treated away from the pressures of family and community was recognized several decades ago. Private and later public facilities for this purpose were developed. Some child-care institutions, organized earlier in the twentieth century for custodial purposes, in the past fifteen or twenty years have changed in function to serve the psychiatric needs of children and youth.

The State of Delaware about fifteen years ago, in planning for the social and welfare needs of its citizens included in the original design for the Governor Bacon Health Center "a department for the care and treatment of children between the ages of three and eighteen years, who are either seriously maladjusted or mentally ill and who are amenable to modern care and treatment."1 Soon after the Center opened in 1948, the inadvisability and extreme difficulty was demonstrated of trying to treat children with psychoses or severe emotional disturbance in the acute stage and children-in the same residential unit- who were mildly disturbed. It was necessary to state in the criteria for eligibility for admission the following restriction regarding children with "problems growing out of hostility and aggression which cannot be contained in the home, school, or wider community."

"If the child has sufficient ego strength to warrant help and his behavior is such that it does not require maximum security, he is accepted on a provisional basis to test his ability to fit into our environment. However, not over five per cent of the population of the Center can be made up of children in this diagnostic category and the ages must be dispersed in the age range 7 to 13."²

During the years in which the Governor Bacon Health Center has been providing residential care and treatment for maladjusted children, the need for separate facilities for extremely disturbed, pre-psychotic, or psychotic children became more apparent and insistent. In the fall of 1959, therefore, the State Board of Trustees approved the establishment of a psychiatric unit at the Governor Bacon Health Center for the treatment of acutely disturbed pre-psychotic, and psychotic boys and girls. This facility is in the Tilton Building, the main hospital building.

^{*}Medical Director and Assistant Superintendent, Governor Bacon Health Center.

DISTURBED, CHILDREN



The boys' unit was opened on November 9, 1959. This facility comprises two single rooms, one room with three beds, a ward of five beds, a day room area, and a bathroom. It is located on the first floor of the South Wing of the Tilton Building. It provides beds for ten boys.

On February 12, 1960, the psychiatric unit for girls was put into service. This unit is on the first floor of the Tilton Building in the North Wing. The unit consists of a dormitory room with four beds, two single rooms, and a day room. Bath facilities are adjacent to the unit.

Both units are staffed with 24 hour attendant service (three eight-hour shifts for each unit). One charge-nurse supervises both units. The Acting Clinical Director is the physician responsible for the Psychiatric Unit. She visits each unit twice a day routinely and more frequently as needed. The Center Pediatrician, the other physicians in charge during the evening and night shifts, and the Consultants give service to these patients as needed. The visiting child psychiatrist makes rounds in the units once a week. He has some of these patients in individual or group psychotherapy. The Social Service

and Psychological Divisions also work with individual patients of these two units or with groups of them. One recreation worker is assigned to the Psychiatric Unit and provides activities for them in the Unit or out of doors. All activities of the children in the Psychiatric Unit "are governed by the express orders of the physician in charge." Daily orders are posted. Teachers take school assignments to the children when their condition does not permit them to attend the regular classes. As often as the present emotional states of these children permit, they participate in the church, school, and regular recreation activities of the Center. According to the orders of the physician in charge of the Unit, the children leave the unit under escort of an attendant, recreation worker, teacher, or a member of the psychiatric staff or unescorted, provided the Charge Nurse has issued a pass to the child who has been permitted by the physician to go unescorted. Children who do not desire to participate in an activity, are permitted to remain in the Unit. An effort is made, however, to motivate them to participate if they are not too disturbed for group activity. Two of the older girls and one boy are in a vocational training program as a

part of their therapy. One girl is training with the hairdresser for the Center. The other assists in a class for trainable mentally retarded children in the Convulsive Seizure Unit. The boy is training under one of the mechanics in the Maintenance Division.

The patients in the Psychiatric Unit receive visitors on Saturday between 1:00 and 3:30 p.m. Various civic groups have sponsored parties and other entertainment for the children in the Unit. Each day room is furnished with a television set. Books, magazines, puzzles, and various games are available for use in the day or other rooms, as the children desire. Every effort is made to interpret to the patients the special purpose of these facilities to eliminate any feeling of rejection on the part of these children in not living in the cottages.

A psychiatric staff meeting is held once a week in the solarium adjoining the boys' unit. The Medical Director and all personnel working with the individual patient presented attend. The purpose of this staff meeting is to observe the condition and progress of the particular patient, to make a diagnosis, review the treatment program, make recommendations for continuing treatment, help plan for the child's transfer from the unit to a cottage or discharge directly from the unit home or to some other placement.

The following admission procedures were established by the Superintendent for the Psychiatric Unit and are in force. The availability of a bed in the appropriate unit is always a primary consideration for admission, of course.

- 1. A child may be admitted when there is no immediate urgency but admission to the psychiatric unit is recommended by the Mental Hygiene Clinic or private psychiatrists who have evaluated the mental status of a pre-psychotic or psychotic child and feel that he will be benefited.
- 2. In urgent cases in which a psychiatric problem is present the Court or State Department of Public Welfare may request

emergency evaluation by the Mental Hygiene Clinic. This agency may then recommend immediate admission to the Psychiatric Unit.

- 3. A disturbed, pre-psychotic, or psychotic child who is not delinquent may be admitted to the Psychiatric Unit of the Governor Bacon Health Center without the evaluation of the Mental Hygiene Clinic if the referral is made by the Court or any social agency. The child received under this type of referral will be admitted for diagnostic and therapeutic purposes and not merely for observation, provided that the child is examined by the Medical Director or one of the staff physicians of the Center and the admission is advised by the examining physician. If the child's admission is not advised after the examination, it is the responsibility of the agency working with the child to make other arrangements for his placement.
- 4. A child who needs intensive treatment and maximum security for a psychiatric problem may be admitted directly to the Psychiatric Unit at the Governor Bacon Health Center without previous evaluation. The State agency or facility working with the child must agree to assume responsibility for the child's placement elsewhere, if the evaluation of the Center Staff indicates that treatment in Psychiatric Unit is not feasible. The immediate transfer of children to the Psychiatric Unit for diagnosis and treatment of their psychiatric problems may relieve another State facility performing child care functions.
- 5. Any child newly admitted or already in residence in any other unit of the Governor Bacon Health Center may be transferred immediately to the Psychiatric Unit, at least on a temporary basis, if he manifests psychotic or emotionally disturbed behavior of a serious nature.
- 6. Children receiving shelter care will be transferred to the Psychiatric Unit, if they become mentally or seriously emotionally disturbed. Notice of such a transfer will be

given to the State Department of Public Welfare.

From November 9, 1959, when six boys were admitted to the boys' section of the Psychiatric Unit, through August 31, 1960, a total of 33 boys had been treated in the Unit. In the period from February 12, 1960, when the girls' section was made available, and the somewhat later date when the first two patients were transferred there, 14 girls have been in residential treatment. Some ten boys have been treated in the Unit, transferred to a cottage, and later returned to the Unit from the Cottage System. One of those in the Unit, on August 31, 1960, had been transferred to a cottage twice, before being returned to the Unit for the third time. Five of those still in the Unit as of August 31, 1960, including the boy mentioned above, had been transferred to a cottage and back to the Unit at least once. One of the boys remaining in the Unit has been there for six months. The Unit seems to be meeting the needs of this boy better than the cottage did in the several years he had been in the Center prior to the opening of the Psychiatric Unit. A boy who had been one of the original six children admitted to the Unit went home on trial visit directly from the Unit after being treated there for nine months.

Among the girls treated in the Unit is one who was in the first group admitted. She still remains in the Unit. There has been only one girl who has been transferred out of the Unit and has been returned to it. The five girls remaining in the Psychiatric Unit on August 31, 1960, had resided there continuously from their admission to the Unit. Two were patients who had been patients in the Maladjusted Children's Unit some time before. One was returned from Trial Visit and admitted in the Unit. The other had been discharged from the Maladjusted Unit twice and from the Shelter Care Unit once.

Among the boys treated in the Psychiatric Unit the problems have been principally severe hostility and violent aggression against others; chronic running away from home and truancy from school; destructive behavior; threats of physical violence against others including homicidal threats; serious behavior problems including breaking, entering, stealing, and vandalism. There have been schizophrenic boys in the group and several with schizoid personality.

Among the fourteen girls treated in the Psychiatric Unit has been a girl who has shown homicidal tendencies and considerable confusion concerning sex identification. Three have made suicide attempts. Two are definitely schizophrenic. Several have been acutely disturbed and belligerent in the cottages in which they were living. Two seriously disturbed girls were acting out their problems through sex activity. Progress has been observed in some of the girls who have been patients in the Psychiatric Unit. It seems, however, that most of the girls who have been admitted in the Unit are suffering from deep-seated serious mental illness. With several notable exceptions, the boys treated in the Psychiatric Unit have been acutely disturbed in their cottages, but their problems have been less indicative of psychosis than of emotional disturbance.

It has been gratifying to observe how some youngsters who were evaluated as prepsychotic on admission have responded to the intensive therapy made available in the Psychiatric Unit. Several such persons, particlularly in the boys' unit, have been able to maintain themselves satisfactorily in the cottages after several months in the Psychiatric Unit. There is, of course, much to be learned regarding the most effective techniques of treatment and the types of cases which can be treated successfully in this kind of a facility. It is hoped, however, that as the months pass, the service rendered by the Psychiatric Unit, in terms of the number of youngsters who are helped to move toward wholesome personality integration in the formative years of their lives will justify the expenditure of funds and of the skills and knowledge of professional personnel.

REFERENCES

- 1. Delaware Code, 1953, Title 16, Part V, Chapter 53, Sub-
- Delaware Code, 1933, He 10, Fait V, Chapter 35, Sub-chapter 2, Section 5321, Paragraph (1). James A. Flaherty, "The Organization Of The Residential Treatment Center At Governor Bacon Health Center, Dela-ware State Medical Journal, Vol. 26, No. 8, August 1954,

FATALITIES

During or Following FLUPHENAZINE THERAPY

Symptoms due to drug toxicity frequently are confused with unrelated factors during fluphenazine therapy.

KURT ANSTREICHER, M.D.*

Until now 71 patients at the Delaware State Hospital have had 78 courses of Fluphenazine therapy. Two preparations of the drug have been used: Prolixin (Squibb), (35 first and 3 repeat courses) and Schering 6894, an experimental drug of the same formula now marketed as Permitil (White Laboratories), 36 first and 4 repeat courses).

Two of the 71 patients died less than 24 hours following termination of neuroleptic therapy. My report is prompted by the apparent fact that few, if any, deaths have been recorded in connection with the use of this drug.

Case I

A 29 year old woman entered the State hospital on December 1, 1958. Medical commitment papers mentioned confusion and disorientation, flight of ideas, delusional ideation and occasional spells of assaultiveness. She had been at a general hospital since November 27.

History

Both parents alive; quiet, reticent, intensely religious people. Father sober and industrious, suffers from arthritis. Patient is the third of five children; siblings healthy. *General family history*: One sister of patient's father has been a patient in this hospital (paranoid condition, paranoid state;

differential diagnosis: schizophrenic reaction, paranoid type). Mother's pregnancy uncomplicated; patient was born, full term, May 22, 1929; early development normal, toilet training accomplished at two years of age. To prevent nocturnal enuresis, the patient was taken up at night routinely. Severe nail biting present for many years, but not lately. All children had strict religious training, family ties were close. In High School the patient was an average student, was shy, did not participate in extracurricular activities, had only one or two girl friends.

Patient has always been shy, reticent, seriousminded, highly sensitive. Extremely mild tempered, cried when angered; honest, obedient, nonconfiding. Had few recreational outlets, attended church and Sunday School regularly.

In 1953, after a courtship of only two months, patient eloped from home to marry a man of different faith. The marriage was utterly unhappy; husband was impulsive and destructive, drank, failed to support family, patient had to work throughout her pregnancies; late in 1956 their home was lost, shortly later they separated, and went to live wih their respective families. In November 1957, patient's husband was admitted to this hospital, is still in the hospital; diagnosed schizophrenic reaction, simple type. There are two children, a boy 3 and a girl 2 years of age. The patient's second labor was difficult (low transverse Caesarian section for complete placenta previa).

Measles, mumps, chicken pox, whooping cough in early childhood overcome without complications. Patient has always been overweight (as were patient's father and sisters.) In 1955 she weighed

^{*}Acting Clinical Director and Acting Director of Research, Delaware State Hospital

Baynard Optical Company

Prescription Opticians

We Specialize in Making Spectacles and Lenses According to Eye Physicians' Prescriptions



BAYNARD BUILDING 5th & Market Sts. MEDICAL CENTER
1003 Delaware Avenue

Wilmington, Delaware



PROTECTION AGAINST LOSS OF INCOME FROM ACCIDENTS & SICKNESS AS WELL AS HOSPITAL EXPENSE BENEFITS FOR YOU AND ALL YOUR ELIGIBLE DEPENDENTS.

PREMIUMS COME FROM

PHYSICIANS SURGEONS DENTISTS BENEFITS 60 TO

PHYSICIANS CASUALTY & HEALTH
ASSOCIATIONS

OMAHA 31, NEBRASKA
Since 1902
Handsome Professional Appointment
Book sent to you FREE upon request.

ECKERD'S DRUG STORES

COMPLETE

DRUG SERVICE

FOR

PHYSICIAN - PATIENT
BIOLOGICALS
PHARMACEUTICALS
HOSPITAL SUPPLIES
SURGICAL BELTS
ELASTIC STOCKINGS
TRUSSES

Merchandise Mart Gov. 900 Orange Street

Gov. Printz Blvd.

313 Market Street Fairfax

723 Market Street 3002 Concord Pike

Manor Park

DuPont Highway

46 CALORIES
per 18 gram slice
Holly *BREAD



INGREDIENTS

WHEAT, WHOLE WHEAT AND FLAKED OR ROLLED WHEAT FLOURS, YEAST, MOLASSES, SALT, HONEY, MALT, CARAMEL, SESAME SEED, YEAST FOOD, WITH AN ADDITION OF WHOLE RYE, OATMEAL, SOYA, GLUTEN AND BARLEY FLOURS, PLUS DEHYDRATED VEGETABLE FLOURS, INCLUDING CARROT, SPINACH, KELP, LETTUCE, PUMPKIN, CABBAGE, CELERY AND PARSLEY. CALCIUM PROPIONATE ADDED TO RETARD SPOILAGE.

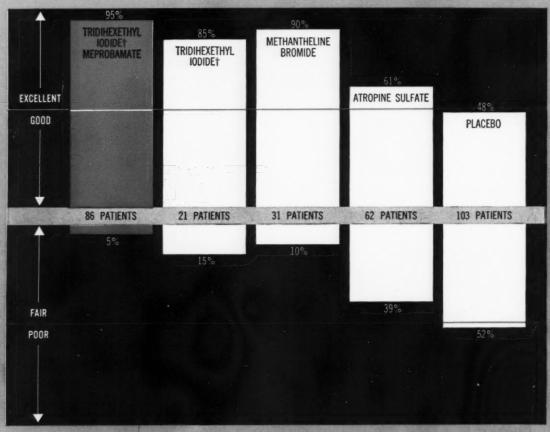
Baked exclusively FOR YOU by



Under License By National Bakers Services, Inc., Chicago

clinically proven efficacy...

in relieving tension . . . curbing hypermotility and excessive secretion in G. I. disorders



PATHIBAMATE combines two highly effective and well-tolerated therapeutic agents:

Meprobamate—widely accepted tranquilizer and

PATHILON tridihexethyl chloride—anticholinergic noted for its effect on motility and gastrointestinal secretion with few unwanted side effects.

Contraindications: glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Two available dosage strengths permit adjusting therapy to the G.I. disorder and degree of associated tension.

Where a minimal meprobamate effect is preferred...
PATHIBAMATE-200 Tablets: 200 mg. of meprobamate;
25 mg. of PATHILON

Where a full meprobamate effect is preferred ...

PATHIBAMATE-400 Tablets: 400 mg. of meprobamate;
25 mg. of PATHILON

Desage: Average oral adult dose is 1 tablet t.i.d. at mealtime and 2 tablets at bedtime.

Pathibamate 200

clinically proven safety

The efficacy of PATHIBAMATE has been confirmed clinically in duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, and gastric hypermotility.

Pictured are the results obtained with the PATHILON (tridihexethyl iodide)-meprobamate combination† in a double-blind study of 303 ulcer patients, extending over a period of 36 months.* They clearly demonstrate the efficacy of PATHIBAMATE in controlling the symptoms.

| | | | sent the second of the | | |
|-----------------------------|-----------------------------------|-----------------------|--------------------------|------------------|---------|
| SIDE EFFECTS | TRIDIHEXETHYL ICOIDET MEPROBAMATE | TRIDIHEXETHYL IODIDE† | METHANTHELINE BROMIDE | ATROPINE SULFATE | PLACEB0 |
| DRY MOUTH | 1% | 5% | 72% | 46% | 5% |
| STOMATITIS | 1% ' | 0% | 28% | 14% | 0% |
| VISUAL DISTURBANCES | 0% | 0% | 50% | 34% | 1% |
| URINARY RETENTION | 0% | 0% | 18% | 11% | 1% |
| DROWSINESS | 20% | 0% | 0% | 0% | 0% |
| COMPLICATIONS OR SURGERY | | | | | |
| HEMORRHAGE | 0% | 9% | 3% | 9% | 10% |
| PERFORATION | 0% | 0% | 0% | 6% | 0% |
| OPERATION | 0% | 5% | 5% | 14% | 2% |
| RECURRENCES | | | | | |
| NONE | 28% | 23% | 25% | 17% | 26% |
| FEWER AND MILDER | 67% | 62% | 52% | 37% | 24% |
| SAME OR MORE | 5% | 15% | 23% | 46% | 50% |

^{*}Atwater, J. S., and Carson, J. M.: Therapeutic Principles in Management of Peptic Ulcer. Am. J. Digest. Dis. 4:1055 (Dec.) 1959. †PATHILON is now supplied as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could distort the results of certain thyroid function tests.



LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

control the tension — treat the trauma

We maintain prompt city-wide delivery service for prescriptions.



CAPPEAU'S, INC.

PHARMACISTS Wilmington, Del.

AS NEAR AS YOUR TELEPHONE

Delaware Ave. & Dupont St. Dial OL 6-8537 Ferris Rd. & W. Gilpin Drive Willow Run WY 4-3701

JOHN G. MERKEL & SONS

Physicians — Hospital — Laboratory — Invalid Supplies

PHONE OL 4-8818

801 N. Union Street
Wilmington, Delaware

Invest in the future health of the nation and your profession



Give to medical education through AMEF

To train the doctors of tomorrow, the nation's medical schools must have your help today. It is a physician's unique privilege and responsibility to replenish his own ranks with men educated to the highest possible standards. Medical education needs your dollars to stay strong and free. Send your check today!



225 lbs., weight at the time of admission here was 2053/4 lbs. (Height 5'3"). In recent years patient craved sweets, was unable to adhere to any diet prescribed for her. Rapidly progressing arterial hypertension at least since 1953. The mean systolic/diastolic blood pressure values in 1955 (from 3 readings) were 156/95.3 mm. Hg.; in 1956 (from 43 readings) 144.3/82.5 mm. Hg.; one reading in 1957 was 170/100 mm. Hg.

Menarche at 12 years, menses occasionally heavy. During recent months patient complained about feeling dizzy at onset of menses. Last month, violent headaches premenstrually. Last period a few days overdue when the patient entered the hospital, but started following admission.

Occupation: Patient has worked in two jobs, was an excellent, appreciated worker. Alcohol never used.

Onset of Illness: On November 24, 1958 patient took her daughter to the physician and, at the same time, again discussed her own problems of obesity and hypertension. Her blood pressure then was 180 mm. Hg., systolic. Physician gave patient a d-amephetamine compound (patient had used same medication 3 months before). The physician noticed that the patient was unusually garrulous and that she had developed paranoid notions regarding co-workers, employer and others. Her mother related that the patient had become increasingly critical of the home conditions.

On the 26th, in the evening, she refused her meal, appeared excited, overtalkative and restless. Found awake at night, she appeared irrational, rambled about people she had known in the past. The physician was called, she received Thorazine medication, 25 mg., slept a few hours, then continued to be overtalkative and rambling, finally became very loud and at that point was sent to the general hospital.

The patient's general practitioner feels that the patient, in fact, has been increasingly psychotic for two years, approximately. He mentions increasing suspicions and unrealistic persistent fantasies of pregnancy.

She entered the general hospital on November 27th, appeared confused, disoriented, talked continually, sang religious songs, appeared restless and nervous, mentioned fear of pregnancy and spoke of having "seen the light." She was noisy at times, refused meals, required heavy sedation and Thorazine medication (50 mg. t.i.d.).

The patient's condition precluded intensive studies, but a urinalysis, November 27th, gave the following findings: Specific

gravity 1,027, Albumin 3+, Sugar negative, Acetone 3+, few White Blood cells and Hyaline casts per field. A blood count read: Hb. 109%, 17.0 gram, White Blood count normal. The blood pressure reading had been 160/110 mm. Hg. The patient was seen by a staff psychiatrist and her transfer to the Delaware State Hospital was arranged.

Course in Hospital

Admission physical examination was negative except for obesity, intertrigo of lower abdomen, cutaneous infection near the left hip, blood pressure 180/90, slurred speech (sedation). The mental examination showed the patient at first uncooperative. She was not overactive, attention span was short, she appeared confused and disoriented in time. Later on she was histrionic, flighty, there was pressure of speech; she was emotionally labile, changing quickly from cheerfulness to seriousness, to anger; she was affectively blunted, laughed and cried. She appeared delusional, preoccupied with sexual problems, which she discussed unduly freely, had incest fantasies, and was hallucinated ("God had talked to her" for some time).

The initial differential diagnosis included diagnoses of Schizophrenic Reaction, Hebephrenic Type, and Manic Depressive Reaction, Other (Mixed) Type.

Lab studies: Blood sugar: 127 mg. %; Blood urea nitrogen: 11.5 mg.%; Blood count: normal; Cholesterol: 225 mg. %; Glucose tolerance curve: fasting, no specimen; 30 minutes, 209 mg.%; 1 hour, 238 mg. %; 2 hours, 251 mg. %; (urine 2+ for sugar); 3 hours, 238 mg. %; W.R.: negative; Lumbar puncture: normal findings. On December 8th another fasting blood sugar level was read at 134 mg.%.

The patient was started on a course of Fluphenazine medication (Prolixin) on December 4th. She received 5 mg. b.i.d., i.m., until and including the morning of December 8th, altogether nine injections.

Her mental condition changed as follows: December 4th: Loud, tearful, flightly, overtalkative, denudative, untidy at times, misidentifies, has religious preoccupations, kneels on the floor, hears voices, refuses her meals, but takes fluids well, remains awake part of the night. December 5th: Still overtalkative, loud, flighty, sings and cries, bangs doors, disrobes, shows religious preoccupations, refuses meals, but takes fluids, remains awake part of the night, but is quiet. December 6th: Noisy, confused, untidy, takes only fluids, more quiet in the afternoon, sleeps most of the night. December 7th: Mildly restless, but drowsy, tends to lie around, appears confused, refuses her lunch, sleeps at intervals.

Morning blood pressure readings from December 1 to December 7 were as follows: 180/90, 130/80, 210/110, 160/90, 180/110, 190/150, 160/118 mm. Hg.

On December 8th in the morning, she was found semi-stuporous, in shock, blood pressure not measurable. Drug therapy was discontinued, she was transferred to the sick ward, and was seen by internists and surgeon. She received the following treatment: External heat, oxygen, continuous intravenous infusion of 5% dextrose in saline, levophed, caffeine sodium benzoate, heparin, penicillin. In the afternoon her temperature went up to 100° and the blood pressure with levophed was maintained at 120/108. Both lower extremities, more so the left, appeared cyanosed, cold, and the patient complained of pain in her legs. At 7:15 p.m. she was transferred to the general hospital.

Course at the general hospital: Admission findings at the general hospital were: Variable, feeble pulse; tachycardia, 120 per minute; pulse regular; skin cold and clammy; patient able to respond to questions; no CNS localizing signs; abdomen, lungs heart: negative. Blood count: Hemoglobin, 127%, 19.9 gram, White blood count, 28,500/cmm. (polys 75%, bands 21%, lympho 1%, mono 1%). Urinalysis: Color, light brown, cloudy; Albumen 4+; Sugar, acetone negative, Red blood cells 10-15/HPF, White blood cells 4-8/HPF; many coarse casts, bacteria.

The patient was continued on levophed and in addition received streptomycin, achromycin and hydrocortisone (100 mg. q.i.d.). At 10:00 p.m. TPR's were 103.4°, 144/min., 30/min., on December 9th at 4:00 a.m. the corresponding findings were 105.4°, 130/min., 40/min.

The patient did not respond to therapy and expired on December 9th at 4:30 a.m.

Autopsy findings: Kidney: acute proliferative glomerulonephritis; Lungs: acute interstitial pneumonitis, focal intra-alveolar hemorrhage; Adrenals: medullary hemorrhage; Liver: fatty changes; Brain: congestion; Heart: congestion, hypertrophy, perivascular fibrosis.

Final diagnosis and cause of death (general hospital) were: Peripheral vasular collapse, possibly secondary to drug idiosyncrasy, Acute glomerulonephritis. Final diagnosis (Delaware State Hospital) was: Schizophrenic Reaction, Schizo-Affective Type.

Case II

A 39 year old woman entered the Delaware State Hospital on January 31, 1960. Medical commitment papers mentioned death of the mother six weeks before, the patient trying to settle the estate and becoming upset about this. Two days prior to admission acute excitement, exaltation, hallucinations, delusion, feelings that things were strange, and misinterpretations.

History

Patient of Italian descent, father poor earner, irritable, died four years ago, having had several cerebral strokes and having suffered from rheumatism for a number of years. Mother died from cancer. Children were closer to her. Had a short lasting breakdown at age of 42; said to have been irrational for 3 weeks, but was not hospitalized. Patient the seventh of nine siblings, two of whom had died young, prior to patient's birth. Oldest living brother released from service for reasons of mental ill health. He spent one month at a V.A. Mental Hospital. Diagnosed: Schizophrenic Reaction, Simple Type. Youngest sister patient in this hospital from 1948 to 1952 (Schizophrenic Reaction, Hebephrenic Type). Paternal uncle mentally disturbed, had treatment in Europe.

Patient born on February 25, 1920, full term. Early development normal. Patient graduated from High School, average student.

Patient was quiet, though not shy. Met people readily, was relaxed and casual, cheerful, good sense of humor. Not secretive, but able to work out her own problems. Fairly independent, slightly stubborn. Religious. Good housekeeper.

She married in 1941, had 3 healthy children. Marriage was very happy. Her health had been good. Menarche at 11, periods lasted 8 or 9 days.

Onset of illness: At mother's funeral patient looked "stoney." Later on functioned somewhat "automatically." A few days ago, attempting to settle her mother's estate, she became agitated, depressed, and sleepless, was found kneeling on the floor, accusing herself, thought her mother was still alive, that the Lord was talking to her. Voiced long buried guilt. Three days ago became panicky and excited, aggressive towards her husband. After one night of continued crying and screaming admitted to a general hospital and committed to the State hospital.

Course in hospital

Admission physical findings: Patient resistive to examination, unkempt in appearance, skin pale, blood pressure 148/90, other findings normal. Mental examination: Patient withdrawn, seclusive, unfriendly, manneristic, resistive, refusing to answer questions. Appears preoccupied, worried, depressed. Remained mute, except for the remark "I want my mother."

Lab studies: Urinalysis: negative; Blood sugar: 97 mg. %; Blood urea nitrogen: 12.5 mg.%; Cholesterol: 261 mg. %; Blood count: 3,257,000 red blood cells, Hemoglobin 61.9%, 9.6 gram, White blood count, 6,400; Alkaline serum phosphatase: 3 Bodansky units/100 ml; W.R.: negative.

The patient remained severely excited, screamed, laughed and danced, ran up and down the ward. At other times she was in semi-stupor, spoke in whispers, appeared preoccupied with religious ideas, and was found in praying positions. At times she would sink to the floor and remain there motionless. She seemed to answer to hallucinations "I did not commit adultery."

A tentative diagnosis of Schizophrenic Reaction, Catatonic Type was made and on February 2nd she was started on medication with Fluphenazine (Schering 6894), 4 mg. b.i.d., i.m. (she also received iron for anemia).

February 3rd: Patient described as lying on her bed in semi-stupor, to whisper inaudibly. At times

still disturbed, but easier to manage. In the afternoon dyskinetic reaction (protrusion of tongue, rigidity, periods of screaming), evening dose of medication withheld. February 4th: Similar dyskinetic reaction following morning dose of medication. Seen beating her thigh with clenched fists, her lips drawn back, makes peculiar groaning noises. From time to time these symptoms will pass off, her eyes open and one is able to communicate with her. She then states that she hears the voice of God and that she has committed a great sin. Later in the morning she receives Akineton, 5 mg. intravenously, and responds with complete relaxation, converses normally and plays the piano. Three hours later again dyskinetic. On February 5th and the following days continues to show features of marked catatonia. February 8th: Again semi-stuporous, disinterested, in bed in deep catatonic stupor, waxy flexibility, features immobile, slight coarse tremor of head; takes food and fluids reasonably well, but has to be spoon fed. Following another injection of Akineton, facial features loosen "I feel like I am coming back into the world." Two hours later possible to take her for a walk; upon return felt that she had not enjoyed it. Dosage of medication increased to 6 mg., b.i.d., i.m. February 9th: Severely cataonic, lying in bed, odd noises being the only response. No rigidity or waxy flexibility; requires spoon feeding, but eats well. Spends some time in the day hall, sitting quietly and inactively, remains mute.

On February 10th at 7:00 a.m., patient was found dead in bed. She had been seen alive last at 4:00 a.m. the same morning, asleep, and apparently in satisfactory condition. When found dead, the patient was in prone position, her face pressed against the pillows, all muscles rigid, arms flexed at elbows, the legs extended, no marks on her body. All dependent parts of face and body were livid in color; the tip of the tongue was caught between the teeth, blood tinged mucus had drained from the mouth and had stained the pillows. The total picture suggested death during or following a convulsive seizure.

Autopsy

Medical examiner's autopsy revealed: 1+ pitting edema of the ankles, a small heart, congestion of the lungs; Liver small and congested; Brain 1,250 gram, pressure cone, pituitary gland slightly enlarged, mild cortical atrophy of both frontal lobes, diffuse congestion and prominence of small vessels

throughout the brain, and a small (2 mm. diameter)) punctate hemorrhage in the right dentate nucleus. A residual thymus (4 x 2 x .8 cm.) was present.

Our final diagnosis in this case was, for the patient's mental illness, Schizophrenic Reaction, Catatonic Type, and as to the cause of death, Cerebral Edema and Congestion, Catatonic Schizophrenia with Convulsive State.

DISCUSSION

Deaths in relation to Fluphenazine therapy are rare. The Medical Departments of Schering Corporation, Bloomfield, New Jersey (Schering 6894), Squibb Institute, New Brunswick, N. J. (Prolixin), and White Laboratories, Kenilworth, N. J. (Permitil) have no knowledge of additional cases. 1,2,3

In both cases reported in this paper it has been difficult to evaluate the relationships between fatal outcome, pre-existing physical illness and therapy with neuroleptic drugs.

In Case I the patient no doubt was physically (and possibly also mentally) chronically ill. She had been extremely obese and increasingly hypertensive for many years. She probably had developed mild diabetes mellitus. There is also evidence for kidney disease of some standing. Hospital records of 1956 and 1957 contain reports of negative urinalyses. Prior to admission to this hospital the urine showed Albumen 3+ and contained casts.

The main findings at autopsy were acute proliferative glomerulonephritis and pneumonitis. During, but not necessarily because of, her course of neuroleptic medication an acute exacerbation of a previously

present kidney ailment may have occurred. Nevertheless, the final reasons for the patient's suddenly developed and profound state of irreversible vasomotor collapse shock) are not fully understood. One might assume that the added stress of neuroleptic medication upon an already overloaded entonomic nervous system, led to irreversible entonomic imbalance and final loss of homeostasis.

Fluphenazine is not known to produce kidney complications. Very occasionally, kidney pathology was found in experimental animals to whom high doses of the drug had been given over prolonged periods of time; these findings probably having been incidental.4 At one time there was also some suggestion that under treatment with Fluphenazine elevation of blood urea levels had occurred. This singular observation was, however, not confirmed.5

In Case II, nature and mode of death are not fully understood and evidence for death in or following convulsive seizure is slightly circumstantial. To the best of our knowledge the patient had had no seizure prior to her course of drug therapy and death, respectively.

While many neuroleptic, and other psychotropic agents, are known to produce seizures occasionally, notably so Promazine, but also Vesprin, Chlorpromazine, Perphenazine, Serpasil, Imipramine, and others, Fluphenazine has produced seizures infrequently.

Essential findings at autopsy in our case, were congestion and edema of the brain. The significance of the small intracerebellar hemorrhage is difficult to assess and may not be high.

REFERENCES

Personal communication from Robert W. Burlew, M.D., director, department of clinical investigation, Medical Research Division, Schering Corporation, Bloomfield, N. J.
 Personal communications from C. Lewis Ravaris, M.D., Ph.D., assistant medical director and Mark I. Hewitt, M.D., associate medical director, department of Medical Service, Squibb Institute for Medical Research, New Brunswick, N. J.
 Communication from White Laboratories, Incorporated, Kenilworth, N. J.

Preliminary reports (sub-acute toxicity studies in rats) to Schering Corporation, Bloomfield, N. J., 1957 (pp. 40, 41) and report of pharmacology and toxology in preparation of Squibb 4918, (combined report to the company) pp. 11, 12, tables 16, 17, December 1957.

Letter of October 13, 1959 and recent communication from C. Lewis Ravaris, M.D., Ph.D., assistant medical director, department of Medical Service, Squibb Institute for Medical Research, New Brunswick, N. J.

SUCCESSFUL TREATMENT OF

SEVERELY DISTURBED CHILDREN

A REVIEW OF TWO CASES

MARY NANIGIAN, M.D.*

In the four years that the writer has been a member of the medical staff of the Governor Bacon Health Center, a number of interesting cases of seriously disturbed children have been admitted. Some have responded to the various types of treatment available and have been able to maintain themselves in the community. Two of the most interesting patients with whom I have worked were boys with very serious, deepseated problems. One was diagnosed as sociopathic personality disturbance, sexual deviation, with psychotic reaction, mental deficiency, mild. The diagnosis on the other was psychoneurotic reaction, obsessive-compulsive reaction. After intensive treatment both were placed on trial visit and were finally discharged. This report will present information concerning the presenting problems and the treatment of these two children.

Case No. 1

This patient was a 14 year old boy at the time of admission to the Governor Bacon

Health Center. He was referred by a local child psychiatrist who described the child's difficulty as "a problem in identification with effeminate mannerisms, possibly overt homosexuality and occasionally stating that he is having a baby." He had been released from school to receive psychiatric treatment because of his strong effeminate characteristics.

This boy was born when his mother was 15 years old and the father 16 or 17. One sibling, a girl, is two years younger. The marriage lasted three years. The father was in the Service during about half of the marriage but allegedly was frequently at home. He became involved with the law and served a prison sentence. The boy was eight years old when the father was released from prison. The family lived with the maternal grandparents both while the marriage lasted and afterwards. The mother remarried during the year her ex-husband was released from prison. The stepfather legally adopted the two children. They have continued to live with the maternal grandparents.

^{*}Acting Clinical Director, Governor Bacon Health Center.

The boy was over-sheltered and over-protected. He identified strongly with adults, especially women. He enjoyed cooking. He was very clothes-conscious and particular about his clothes. His mother stated that he had begun to want to wear clothes "like some of the homosexuals do." He was reluctant to expose his body and had been returned from camp the summer before admission because of problems connected with undressing, bathing, and the like with the other boys. Also, at times he reputedly grabbed his abdomen in pain, exclaiming that he was going to have a baby. No matter how hot it was, he would insist on sleeping under a cover, a blanket, until his mother packed it away.

He was ridiculed by his peers because of his feminine gestures. He was increasingly suspicious of people, wondering if someone was talking about him. He was becoming withdrawn and wanted to stay in his room, all the time. It was difficult to persuade him to bathe.

According to the mother, the boy was a full-term baby, delivered by forceps. He was weaned rather late and at two years of age kept taking his baby sister's bottle. He walked at about fifteen months of age. He did not talk until he was about three years old. He began to stutter at the time speech was developing. He was not completely toilet trained until he was five, although the training was started when he was nine months old. He was said to have occasional bowel accidents when he was twelve years old. Also he was enuretic until he was 11 years old.

Referred for Speech Therapy

When the child was five years, he was referred to the Mental Hygiene Clinic for speech therapy, also because he was a behavior problem at home and at kindergarten. He was described as having temper tantrums, screaming, stamping his feet, crying for hours, also being "disobedient, sassy, and destructive."

He was examined in the Mental Hygiene Clinic at the end of the school year prior to his admission at the Governor Bacon Health Center. At that time he was diagnosed as a schizoid personality. His feminine identification was noted.

Disturbed Mother

Perhaps of some significance might be the history of disturbance in the mother, who was described as a very anxious person. She had received psychiatric help for tantrums and for occasional alcoholism. A maternal aunt was reputedly mentally ill but never hospitalized.

On admission to the maladjusted children's unit, this lad was found to be well-built but overweight. Hair growth and genital development were relatively normal for his age. The endrocrinologist who examined this patient reported, "He has marked increased hair markings which is observed in this type of case. In these patients there is a possibility, if not a probability, of converting their adrenal hormones into female type hormones."

He exhibited marked female tendencies in his gait, gestures, and speech. He also showed some symptoms of being withdrawn and suspicious. After the routine admission examination, he asked if the results of the examination would be broadcasted.

He wore very tight fitting trousers. He asked the attendants for sanitary pads and brassieres. At times he wore bright colored streamers of crepe paper around his neck. He wore his hair somewhat long and frequently had a pencil sticking in it.

Psychological testing indicated that this boy was functioning intellectually at the borderline level. According to academic achievement tests he was retarded in all areas. His performance on the projective tests indicated that he had a good deal of confusion and disorganization but was maintaining himself at the neurotic level.

He was kept in the main hospital building in the admissions unit for one year. There had been some question as to whether he should not be transferred to the Delaware State Hospital. He was evaluated by the Superintendent. Since the boy was not a management problem, however, the Superintendent advised that he remain at the Health Center in intensive therapy. His general behavior was satisfactory. He was polite, courteous, and coooperative.

He attended school on the grounds and recreation activities with the children in the cottages. The writer saw the boy daily regarding current problems. Twice a month a visiting child psychiatrist worked with him. The Chief Psychologist had eighteen psychotherapy sessions with the patient over a six months period.

Medically he received Thorazine Spansules in various dosages practically throughout his hospitalization. On order of the Endocrinologist he received Methyl Testosterone, 10 milligrams daily for three months. Although the Endocrinologist was not ready to discontinue this medication, he did so because of the patient's suspicious attitude.

The boy had been the butt of much teasing and ridicule from his peers at school and in the recreational areas. At first he became quite disturbed. He feared physical combat, however; therefore, he never attacked the teasers.

Improvement Shown

Gradually he adopted clothing which fitted properly and was less conspicuous than formerly. He apparently lost his delusions of feminine identification for he ceased to talk of menses and of having a baby. His feminine gestures decreased, and he became better adjusted to male manners of bathing and toileting. He improved in his school work and achieved at a higher level academically than his intellectual endowment indicated. His higher-than-expected scores "are assumed, in part, to be a reflection of the patient's improved emotional status."

At the end of a year his transfer from the hospital building to a cottage was recommended by the Staff and approved by the Superintendent. He lived in a cottage seven months. According to the reports of the houseparents, he adjusted satisfactorily although at first he sought attention and re-

sented supervision. He continued to be teased to some extent by his peers, but they seemed to accept him satisfactorily.

After Staff evaluation, he was placed on trial visit at home and continued to see the writer on an out-patient basis. He was seen seven times within eleven months after trial visit status began. At the end of one year he was discharged from the Health Center records.

During the trial visit period, he attended the Opportunity Center in Wilmington, and completed a ten weeks course in carpentry. He worked at the Opportunity Center for several months and left this employment when he received a job as a handy man in one of the general hospitals at a higher rate of pay. He continued in this employment until recently. A statement made by the youth's mother in a telephone conversation with the writer seems to indicate the need of further psychotherapy.

It was the consensus of the persons who worked with this boy that his problems are so deep that the hope of really eliminating them is meagre. He apparently gained sufficient insight and ego strength to accept the conventions of society, however. It may be necessary for him to have some supportive treatment occasionally through the years to help him meet the stresses created by the reactions of society.

Case No. 2

This boy was born in 1948 and was referred by a local psychiatrist to whom he had been taken when his school adjustment became unsatisfactory and his symptoms severe. In school he was doing above average work until the precipitating event. He was unable to concentrate and was frustrated and hysterical. The incident which preceded the onset of the presenting problems was his breaking the Communion fast, then taking Communion. When his deception was discovered, he became hysterical. He developed hallucinations of God and the devil. Although the child had always exhibited some fears such as demanding to sleep with a light in his room and having his brother accompany him to the bathroom after dark, his fears increased. He became extremely fearful of disease and at times was hysterical, stating that he was dying from cancer, tuberculosis, brain tumor. Physical examination showed him free of disease of any kind. He was often afraid to eat because "food contains poison." He thought people were out to kill him.

According to the mother, the boy was always withdrawn and uncommunicative, seldom confiding in anyone. Although he had a normal birth and was apparently healthy, the child is said to have cried a great deal and to have slept poorly. Allegedly the parents took turns walking with him or pushing him in a carriage all night. His physical development was normal in all respects. He was never able to amuse himself.

The second sibling, a girl, was born when the patient was almost two years. The third child, a boy, was born two years later. According to the mother, the patient never exhibited any jealousy towards his siblings, but he demanded attention.

Paternal History

The child's paternal family history is quite interesting. The paternal grandfather died of coronary thrombosis in a mental hospital after residential treatment of 14 years. His diagnosis was dementia praecox paranoid, with mental deficiency, moderate. The paternal grandmother had been chronically ill with high blood pressure and died quite suddenly when the patient was eight years old.

The maternal grandmother had a heart attack when the patient was seven years old. Since then she had been unable to stand the noise and confusion of the children and was fearful of dying.

The patient's father reputedly was nervous and unhappy at his work. He had been under the care of a physician for high blood pressure since the month of the boy's breakdown. According to reports, the father is fanatical about his religion.

The mother was suffering from emotional

disturbance herself and had been a patient in a mental hospital briefly. When the child was admitted to the Governor Bacon Health Center, the mother talked considerably of her own numerous ills.

Admission Examination

The admission physical examination showed a well-built and well-nourished boy. The laboratory findings were all within normal limits. He was quiet and mentally alert.

According to the psychological tests administered to the child, he was functioning within the average range of intelligence. His academic achievement was very close to the level of expectation. There was indication of marked anxiety and some suggestion of difficulty in concentration. His intellectual range probably would have been indicated at a higher level if he could have functioned without emotional disorganization. The projective test results showed evidence of a personality pattern disturbed by "defensive compulsivity and a fear of rejection." It was the opinion of the psychologist who examined the child that the defenses which the child had developed did "not adequately defend against panic reaction and behavioral manifestations periodically became acutely disturbed." There was evidence in the child's Rorschach responses of "a borderline or prepsychotic condition."

He was retained in the main hospital building in the admission unit approximately three weeks, as it was thought unwise to place him in a cottage with the other children until some of his acute problems had been worked through. He talked quite freely to the writer, admitting that he could not control his thoughts and was cursing the Lord. He said that he constantly prayed for forgiveness, but he felt that he was constantly committing sins. He admitted masturbation and felt that the Lord would not forgive him for this "sin." He had obsessive thoughts which he called "dirty thoughts." These thoughts had sexual content like nude women, women's breasts. He also had repetitive dreams of nude women. He had auditory and visual hallucinations such as hearing condemning voices and seeing God and

the devil. He had obsessions of a religious character like cursing God's name. He tried to keep these obsessive thoughts under control by such compulsive acts as counting, repeating numbers, praying, washing his hands frequently.

He was seen daily by the writer. Several times a day he would call to this physician as she passed the ward and in tears would tell her of his "bad thoughts" and the "sins" he had committed. He was seen four times by members of the Psychological Division for psychotherapy and evaluation. The visiting child psychiatrist worked with him three times. He received small doses of Thorazine for the greater part of the time he was at the Health Center.

During the time the child was in residential care, the Social Service Division worked with the parents to relieve the religious pressure of the parents. Plans were also made for his transfer to a public school from a parochial school.

The child was removed to a cottage where he made a satisfactory adjustment. In fact he was never a problem in either the school or cottage. He was cooperative, polite, and courteous at all times.

His symptoms subsided, and he was cheerful. He slept and ate well, but worried frequently and occasionally had "nervous headaches."

He was placed on trial visit at the end of the school year, having spent $3\frac{1}{2}$ months in

treatment at the Center. He continued in psychotherapy on an out-pateint basis with the writer and had 13 sessions over a ten months period. The writer also saw both parents regarding the child's progress. She also helped them with some of the religious conflict which involved the father's fanatical religiosity and the mother's apparent negligence of her "religious obligations." He was discharged one year after his trial visit status began.

In the early months after the child went home on trial visit, the mother reported that he occasionally woke during the night crying and saying he was afraid of God. Later these fears seem to have disappeared. According to the boy, he prayed in the morning and at night. He attended church regularly but was not so concerned about "committing sins." His school work improved considerably. His teacher was quoted as remarking about the contribution the child made to the class through his participation in the school activities. A recent report from the mother gave no indication of a return of any of the symptoms. The child had been engaging in normal summer activities.

These two cases give evidence that seriously disturbed children can be helped by various types of psychotherapy in a residential setting. There is some suggestion also that out-patient psychotherapy can be used to shorten the time of hospitalization and assist the patient to adjust satisfactorily in the community.

GENERAL PRACTITIONERS AND INTERNISTS

Applications for Charter Membership in the American Society of Diagnostic Radiology are now being received. Membership is open to general practitioners and internists who do or may desire to do some types of Diagnostic Radiology in their offices.

For further information write: Louis Shattuck Baer, M.D., F.A.C.P., 411 Primrose Road, Burlingame, California.

ANTICOAGULANT THERAPY

In the Presence of Pulmonary Venous Congestion

A NOTE OF WARNING

Increased pulmonary pressure should make one unusually careful in the use of anti-coagulant drugs.

ROGER H. CULPAN, M.D.*

Anticoagulant drugs have been used in the treatment of patients with rheumatic heart disease complicated by multiple emboli since 1946, and numerous writers have reported favorable experience with this form of therapy.^{1,2,3,4,5}.

In none of the published reports on this subject, however, has attention been drawn to any particular type of circulatory anomaly, in which anticoagulants are contraindicated. The following case history illustrates a hazard of anticoagulant therapy in a specific type of heart disease.

CASE HISTORY

A 41 year old woman of European descent was admitted to the Delaware State Hospital on March 18, 1960, because of aggressive hypomanic behavior, following a cerebral embolus two years previously.

She had sustained an attack of rheumatic fever at the age of 6 years and an attack of "St. Vitus Dance" at 11 years. Thereafter she experienced no serious ill-

ness until the age of 39 years when she suddenly collapsed in a drug store (Jan. 1958). She was taken to the nearest general hospital where she remained unconscious for seven days and thereafter made a gradual recovery. While in the hospital she was found to be suffering from a fairly severe degree of mitral stenosis with auricular fibrillation and the acute incident was thought to have been an embolus to the left middle cerebral artery. A month after admission she returned to her home, but her husband noted a marked change in her personality. She was confused in her thinking and frequently used words incorrectly. She began to talk about dying and accused people of trying to kill her. During the subsequent months her mental condition remained much the same and she required constant supervision from her family. She received no medication at this time apart from Digitoxin 0.1 mg. daily.

In May 1959 she was admitted to another hospital with a two day history of intense pain in the left leg. On physical examination her peripheral pulses were all

^{*}Acting Senior Psychiatrist, Delaware State Hospital.

present and normal apart from those in her left foot and popliteal fossa which were equivocal. She was thought to have sustained an embolus to the left popliteal artery and it was decided to initiate anticoagulant therapy. She was therefore given Heparin and then Coumadin. The symptoms in her left leg completely subsided during the first hospital week, and after 20 days in the hospital she was discharged with a recommendation that Coumadin therapy be continued and that she have weekly checks of her prothrombin time. The prothrombin time on discharge showed her blood coagulation to be 22% normal. She continued to receive maintenance Digitoxin therapy in the previous dose.

Thereafter the patient remained at home and had no particular physical symptoms apart from moderate effort dyspnoea and on one occasion an attack of paroxysmal breathlessness with slight haemoptysis. Her mental condition on the other hand grew progressively worse and during the month before her admission to this hospital she became acutely disturbed, careless in her habits and profane in speech, making many references to sex and sexual behavior without regard to persons or place. Committal to this hospital was necessitated when she called a detective asking for protection, since she was convinced that her husband was trying to kill her by mixing her medications.

On admission to the Delaware State Hospital she was elated, very distractable and rambling in her talk, describing with a good deal of anger her delusion that her husband was trying to kill her. She was able to name only one town in the State of Delaware, although she had lived in the State most of her life, and she could not name correctly such common objects as a ball point pen, fluorescent light, a set of scales and a telephone dial. She was however accurately orientated in time. She had no insight into her deficits and was quite unconcerned at finding herself committed to a mental hospital. She was thought to be suffering from dementia as a result of cer-

ebral embolism. On physical examination she was noted to be in auricular fibrillation and had a small pulse, suggesting a rather low cardiac output. The blood pressure was 100/70. The cardiac apex was located just outside the midclavicular line in the fifth inter-space, and there was a palpable thrust over the right ventricle. The first heart sound was markedly accentuated at the apex and there was also a grade 3 apical mid-diastolic murmur accompanied by a thrill. A loud opening snap was audible over the entire precordium. The pulmonary second sound was split, the second component of the sound being accentuated. There were a few rales at both lung bases but there was no evidence of peripheral edema. Chest x-ray showed a heart with the typical configuration of mitral stenosis, and in addition the pulmonary vascular markings were unduly prominent, indicating some pulmonary venous congestion. An EKG confirmed the presence of auricular fibrillation but was not otherwise abnormal. On neurological examination she was found to have a right homonymous hemianopia, sluggish pupils, slight right facial weakness, a fast right biceps jerk and an equivocal right Babinski response. There was also evidence of incomplete motor and sensory aphasia, apraxia, alexia and there was some confusion of right and left discrimination. Her haematology blood chemistry, blood serology, urinalysis, CSF, EEG, and skull x-ray were all unremarkable. The prothrombin time was 16 seconds (Quick's technique) or 64%.

At the time of her admission to this hospital the patient was receiving Coumadin 7.5 mgm. daily as well as Digitoxin 0.1 mgm. daily. These medications were continued and on March 30, 1960 Thorazine was added in a dose of 75 mgm. I.M. t.i.d., in order to control her overactive behavior. Thereafter she became less talkative and lost all her paranoid ideas. On March 31, 1960 the dose of Coumadin was increased to 10 mgm. daily in view of the rather inadequate coagulation control on admission. On April 7th the Thorazine dose was changed to 100 mgm. t.i.d. by mouth and

was continued at this level. On April 12th her prothrombin time was reported as 13 seconds or 100%, and for this reason Coumadin medication was increased on April 27th to 15 mgm. per day. On the day following this increase the prothrombin time was reported as 16 seconds or 64%. During the month of April the patient had no particular cardiac symptoms apart from occasional nocturnal dyspnoea.

On the evening of May 3rd, she developed a temperature of 100.4 degrees but no cause could be found for this. On the following morning she became dyspnoeic with a rapid pulse and cold extremities. Her chest was moist and she was spitting up small amounts of blood. The temperature was normal and the prothrombin time was 17 seconds or 52%. She was thought to be suffering from an attack of acute pulmonary edema complicating mitral stenosis with possible early pneumonia. She was treated with Aminophylline gr. 33/4 IV., Demerol 100 mg. I.M., Hydrodiuril 50 mg. P.O., Sodium Amytal grs. 3 P.O., Penicillin 600,-000 units I.M., oxygen and venous tourniquets to all limbs. Following these measures her breathing improved and she slept for almost two hours. On waking up however, she was very dyspnoeic again and had become pale. Pulse was rapid and weak. While sitting up talking to the doctor, she suddenly collapsed and died.

At autopsy she was found to have a completely atrophic left temporal lobe due to embolus in the left middle cerebral artery. The heart was not significantly enlarged and all the valves were in good condition apart from the mitral valve which was severely stenosed, but not incompetent nor calcified. The left auricle was free of mural thrombi. The most striking finding was massive bilateral intrapulmonary hemorrhage, both lungs being entirely filled with blood. There was also a small retroperitoneal hemorrhage in the left renal and lumbar areas. There were no other significant findings apart from congestion of the liver, spleen and adrenal glands. Death was thought to have been due to oligaemic

shock, as a consequence of severe intrapulmonary bleeding.

DISCUSSION

This woman died a haemorrhagic death while under treatment with an anticoagulant drug, despite the fact that throughout her stay in hospital, and even on the day of her death, her prothrombin time was never higher than 17 seconds (control 13 seconds.). It is, of course, not at all uncommon for patients under treatment with anticoagulant drugs to die from massive bleeding. In such cases however, it is almost invariably found that the prothrombin time has reached a very high level, frequently above 100 seconds, and it is usual for the hemorrhage to have taken place into the gastro-intestinal tract or the genito-urinary tract, pulmonary hemorrhage being rarely seen. The conclusion one is forced to draw in this case is that the occurrence of catastrophic pulmonary bleeding was conditioned by the previously existing pulmonary venous congestion complicating mitral stenosis. It would seem therefore that in cases of this kind, anticoagulant drugs should be used with circumspection.

SUMMARY

A 41 year old woman was placed on anticoagulant therapy on account of recurrent embolism complicating mitral stenosis with auricular fibrillation. She collapsed suddently and died of intrapulmonary hemorrhage although her prothrombin time on the day of death was only 17 seconds. It is concluded that anticoagulant drugs should be used rather cautiously in patients who may be suffering from pulmonary venous congestion.

REFERENCES

- REFERENCES

 1. Wright, I. S.: An evaluation of the use of anticoagulant therapy in cardiovascular diseases, Tr., and Stud. Coll. Physicians, Philadelphia, Series 4, 15: 15 (Apr.) 1947.

 2. Wright, I. S., and Foley, W. T.: The use of anticoagulants in the treatment of heart disease with special reference to coronary thrombosis, rheumatic heart diseas with thromboembolic complications and subacute bacterial endocarditis, Am. J. Med. 3: 718 (Dec.) 1947.

 3. Cosgriff, S. W.: Prophylaxis of recurrent embolism of intracardiac origin, J.A.M.A. 143: 870, 1950.

 4. Askey, J. M. and Cherry, C. B.: Thromboembolism associated with auricular fibrillation. Continuous anticoagulant therapy, J.A.M.A. 144: 97, 1950.

 5. Wright, I. S. and McDevitt, E.: Cerebral vascular diseases: their significance, diagnosis and present treatment including the selective use of anticoagulant substances, Ann. Int. Med. 41: 682, (Oct.) 1954.



President's Page

"If only some means could be devised to divert the money, energy, and brains used for military defense throughout the world into channels for improving human welfare and the solution of population problems, a near utopia might be in the offing. No group of persons is in a better position to overcome international jealousy and intrigue than the medical profession. Schweitzer is fond of stating: "The fellowship of those who bear the mark of pain knows no boundary. They belong together all over the world."...

"In the area of human understanding and in order that the fraternity of medicine be unhampered, physicians must remain interested in philosophies responsible for the governments under which they live . . . Let us make sure that our medical fraternity fights just as hard to preserve the freedom and dignity of the individual as we do to preserve human life and alleviate human suffering. Everywhere in my travels it was mentioned by many colleagues that, if physicians were charged with the administration of governments, the threat to human survival would no longer exist. Let us try to deserve this pronouncement wherever we may be . . . International and World Congresses and Alumni Associations such as ours are great forces for the furthering of the cause of peace and of friendship between nations." (From remarks of Henry L. Bockus, M. D., in Medical Affairs, University of Pennsylvania, Vol. 1, No. 4, 1960).

Dr. Leonard W. Larson, AMA's president-elect, observes cogently: "More good will and benefit to humanity is carried in a doctor's satchel than in a diplomat's portfolio."

It is likely that neither physicians nor their fellow citizens are cognizant of the many-faceted contributions which are being made by medicine in furtherance of the brotherhood of man. Physicians have great awareness of community, state, national, and international trends. Their methods of influencing and participating in our "Zeitgeist" often are not the methods used by others. A close look at the total activities of many physicians, their conversation with patients, their travels, their hobbies, their hospital and civic work, their talks and writings reveal solid efforts in behalf of human welfare but which lack general visibility.

One may hope that these efforts will grow, that every physician will find outlets for his talents in supporting the freedom and dignity of man.

Lamuel C. M. Fr.

Obituaries



JOSEPH BENJAMIN WAPLES, M.D. 1884 - 1960

Dr. Joseph Waples was born in Georgetown and died in Rehoboth on September 22nd. Son of a former President of the Medical Society of Delaware, he served in the same office in 1936.

Dr. Waples was educated in the Georgetown Public Schools, Episcopal High School in Alexandria, and received his medical degree from the University of Virginia in 1910. Loved by his patients, fellow townsmen, and colleagues, Doctor Joe was honored in 1958 by the Academy of General Practice for having practiced fifty years. Less than a fortnight before his death he was given the Distinguished Service Award of the Medical Society of Delaware. Upon this occasion he received the following telegram from Dr. F. J. L. Blasingame, Executive Vice President of the American Medical Association: American Medical Association's Board of Trustees, presently meeting in Chicago, extends handclasp of good neighbor and shares your happiness in receiving Delaware Society's Award of Merit. Congratulations! Fifty years of service to your patients represents enviable record few men can boast. Yours is a well-earned honor and we pray for your speedy recovery so you can enjoy it for years to come.

Editorials

NEW FACILITIES FOR HANDICAPPED CITIZENS

Congratulations are due the State Board of Trustees, the Delaware Association for Retarded Children, the Delaware State Office of Vocational Rehabilitation, the State Board of Health, and a number of interested individuals for the success of their efforts to provide a Rehabilitation Center at Stockley. Under the Hill-Burton Act the sum of \$100,-000, of federal funds has been obtained as matching money acquired locally to be used for a modernly equipped center not only for mentally retarded but for mentally and physically handicapped persons from the Delmarva Peninsula. This building should be ready for occupancy in one year. Its construction will begin a new building program for the Hospital For The Mentally Retarded.

A bill is now before the House of Representatives to appropriate \$520,000. for the first group of two new cottages for residential care of mentally retarded patients. The interest and concern shown by the Delaware citizens in providing more adequate services and accommodations for the physically and mentally handicapped and retarded have earned for the State a position of leadership in the nation in programs for the handicapped. Through the continued support of the physicians in Delaware and other citizens, the welfare of the mentally and physically handicapped can be constantly improved.

MEDICAL WRITING

The Philadelphia County Medical Society has joined with the Delaware Valley Chapter of the American Medical Writers Association in sponsoring a lectureship honoring the late editor of Philadelphia Medicine, Miss Dorothy Harrison. The first lecture of this series will be given on Monday, December 19th at the College of Physicians of Phiadelphia. The lecturer will be Dr. Oscar Batson of the University of Pennylvania, an experienced medical writer, whose message will be of value to medical writers

of all walks, degrees and stages. Of course there will be no admission fee for the lecture.

Anyone interested in meeting Dr. Batson at cocktails and dinner prior to the lecture is welcome. There is a small fee for dinner.

If there is sufficient interest, the society (DVC-AMWA) is planning to present a seminar or workshop on medical writing that same afternoon. Dr. Walter Kahoe, Medical Editor for the Lippincott Company will be available to discuss topics of interest and to present a formal critique of any manuscripts submitted in advance. Any persons interested in such a program should contact the Journal office on or before December 1st.

MERITORIOUS SERVICE

In any organization such as your medical society, teamwork is important. Any successful team is composed of many hard working and dedicated individuals. Your editor, as a member of this team, is in a position to see and appreciate the great amount of work that goes into your society.

While there are a number of hard working members, two seem to stand out in the present year.

For the past seven years, our secretary, Dr. Norman Cannon, has devoted his time and energy to the task far and above the call of duty. Words can not express our appreciation to him for dedicating himself without reservation to the betterment of our society.

In his position as Chairman of the Committee on Public Laws, Dr. William La-Motte, Jr., is following in the footsteps of his father. Using not only his personal time that should be given to recreation and his family, he has actually spent time that could have been used in the practice of medicine doing chores for the entire membership of our society.

Our hats are off to these two members whose unselfish actions have so benefited our society. In Brief

Snake Bite Serum

In answer to a venomous attack on 'American Medicine' and medical societies in general, (including county, state and the AMA) appearing in a special supplement of Harper's Magazine, Lemuel C. McGee, M.D., defended each charge down the line in a statement to the Wilmington Morning News. An advance copy of Harper's "The Politics of Medicine" made it possible for Dr. McGee's answer to appear simultaneously with the newstand debut of their October issue.

Heart Stimulant For Severe Burns

Death due to shock from severe burns can be caused by injury to heart muscle. The use of strong drugs—such as digitalis— to stimulate the pumping action of the heart was recommended to counteract burn shock, at the International Conference on Research, sponsored by the Armed Services and the U.S. Public Health Service.

A Knockout For Allergy

Boxing gloves are prescribed for allergy patients to prevent them from scratching themselves in their sleep. Elmer R. Gross, M.D., Wilmington, in *Archives of Dermatology*, says he keeps boxing gloves in his office to lend patients. The gloves are easily kept clean and if found successful will encourage the patient to buy his own.

NIH Grant

A grant of over \$17,000 was made to the University of Delaware by the National Institutes of Health for research in *Genetic Aspects of Radiation Induced Aging*. Arnold M. Clark, Ph.D., is the investigator. Delaware was one of the 29 states in which awards were made as a part of the NIH program of inquiry into health-related characteristics of the aging process.

Selection

The Delaware State Hospital was one of the three psychiatric hospitals selected for a preliminary research project by the World Federation for Mental Health, concerning employee attitudes toward mental illness. The other two were in England and Hawaii. Memorial Hospital, Wilmington, was one of the five in the country selected by the U.S. Public Health Service for a survey of patients' reactions to "Progressive Patient Care." Memorial was one of two in the group selected which have not as yet instituted the progressive care system.

Music Appreciation

Auditory analgesia—the use of music or overwhelming sound to deaden pain—is under consideration by the American Dental Association. In a study of this method of analgesia conducted at Ohio State, it was found completely effective in 67% of the patients; varying degrees of discomfort was experienced by 22%. Under the technique, both patient and dentist hear sounds through earphones with the volume controlled by the patient who may listen to the music of his choice or select the roaring sound of Niagara Falls.

Personal Glimpses

Leslie W. Whitney, M.D., was elected president of the Delaware Division, American Cancer Society; Joseph Arminio, M.D., vicepresident; Thomas Miller, M.D., re-elected director of the American Cancer Society; brief talks were given by Robert W. Frelick, M.D., chairman of Patient Service, and Dr. Arminio, chairman of Professional Service . . . G. W. H. Schepers, M.D., addressed the Northeastern Tuberculosis Conference on Occupational Aspects of Respiratory Diseases . . . Lawrence M. Baker, M.D., Dover, and Drs. Walter L. Bailey, Conley L. Edwards, Jr., Carl I. Glassman, Jr., Wilmington, were inducted as Fellows of the American College of Surgeons at the Annual Congress held in October . . . James A. Flaherty, M.D., continues as consulting psychiatrist to the Catholic Welfare Guild . . . Marjorie E. Conrad, M.D., was guest speaker at the fall luncheon of the Ki-Wives, on hypnosis and its use in medicine . . . S. M. D. Marshall ,M.D., retired as chief of the EENT Service at the Milford Memorial Hospital . . . H. Thomas McGuire, M.D., addressed the Lancaster County (Pa.) Medical Society on alcoholism . . . William J. Vandervort, M.D., was named to the Elsmere Health Board in an advisory capacity by Elsmere Council . . . M. A. Tarumianz, M.D., addressed the National Association of State Mental Health Program Directors in Salt Lake City on a "Blueprint for Mental Hospitals in the Next Decade" . . . Lemuel C. McGee, M.D., appointed to a new 11-man Medical Advisory Council by the Federal Aviation Agency . . .

Disability Evaluation

A well-prepared medical report can speed the payment of disability benefits to a disabled patient and save the physician time on re-exams and recriminations from unhappy applicants. Program chairmen may be interested to know that a movie, *The Disability Decision*, is available by telephoning Mr. Myron Milbouer, District Manager, Social Security Administration, OL 4-7776, Wilmington.

Waterloo For Cancer Cells

There is hope for cure of the cell that has become cancerous. Plant cancers grafted on healthy plants reverted to normal when artificial acceleration of the growth of healthy cells made them predominate. These successful experiments were made by Dr. Armin C. Braun of the Rockefeller Institute for Medical Research. Dr. Braun believes that a predominance of healthy cell material will stop the riotous growth of cancer cells. Similar experiments are now underway on mouse tumors. The same process may be achievable in human cancers, he said.

Drug Industry Research

PMA News Release disclosed that the prescription drug industry spent \$197 million dollars on research and development during 1959 in the biggest privately financed assault on ill health in history. It has budgeted an estimated \$214 million dollars for 1960. Dr. Austin Smith, president of the PMA, said that the third annual survey of the industry's research activities, in cooperation with the National Institutes of Health, shows that over \$18 million of the total was spent outside of the companies' laboratories in the form of grants and contracts to medical schools, hospitals and research institutions.

The Occupational Heart

C. A. D'Alonzo, M.D., is the author of Heart Disease, Blood Pressure and Strokes which, with a light touch, removes many fantasies about the subject for the lay person and points up the reasons for seeing a doctor. Dr. D'Alonzo, assistant medical director of the Du Pont Company, is also co-editor with Allen J. Fleming, M.D., medical director, of Modern Occupational Therapy, based on 40 years of the Company's experience with its employee medical program.

Expansions

Anticipated Hospital A proposed addition to the Kent General Hospital is under way. It will provide 42 more beds, increasing the number to 135. Also planned are a modern kitchen, a dining room for employes, administration quarters, and a completely equipped recovery room, A \$2,370,000 wing is being added to St. Francis Hospital, to be completed by October, 1961. This will add 150 beds and a two-story laundry unit to the hospital facilities.

Antiseptic **Balloons**

A new kind of operating room produced at Walter Reed Hospital, in the form of a plastic balloon, has indentations which permit the surgeon and his assistants to be close to the patient, handle the necessary instruments and remain isolated from the incision. The surgeon cuts through the wall where it is glued to the patient; the balloon discarded after the operation. The new set-up, ready to try on patients, is to keep operative wounds free of infection.

Available Service

A union list of current serial holdings in medicine and allied sciences by special libraries in the Wilmington area has been compiled by the Delaware Academy of Medicine and is available upon request, free of charge.

Calesthenics Come-Back

Competitive sports do not replace traditional calesthenics, according to Dr. Robert Bennett, director of physical medicine at the Warm Springs (Ga.) Foundation. He warned that sports, valuable in themselves, tend to over-strengthen the abdominal muscles at the expense of low-back and other muscles. Dr. Bennett urged a return to old-style calesthenics in school, lest students become sway-backed.

Bottom Quarter

Wilmington ranks 60th with a rate of 590.1 per 100,000 population in a U.S. Public Health survey of coronary death rates in 80 leading metropolitan areas. The highest ranking areas are in East and West Coast states and in the Mississippi Delta. The study also casts doubts that coronary disease is closely linked to tensions of city life. Medical World News.

DNA New Officers

Elected at the Annual Convention of the Delaware Nurses' Association were: Dorothy Hufcut, chief nurse, Veteran's Administration Hospital, Elsmere, re-elected president; Frieda McMullan, assistant director of nurses, Delaware Hospital, first vice-president; Ruth Curry, director of nurses, Wilmington General Hospital, second vicepresident; Mary Ann Early, director of nurses, Memorial Hospital, secretary; Catherine D. Rush, head nurse, Delaware Hospital, treasurer.

Auxiliary Affairs

Profile of Our President



Mrs. J. Leland Fox

Our president, Mrs. J. Leland Fox, is an old hand at Auxiliary affairs. She helped organize the Sussex County Auxiliary, serving as secretary, later as president, and was instrumental in establishing the popular social hour following meetings of the Sussex County Medical Society. In 1950, she served as president of the State Auxiliary.

Mrs. Fox, who was born Marie Steinbach in Norristown, Pennsylvania, chose teaching as a profession. She was graduated from Bucknell University, and did graduate work at the University of Pennsylvania. During her college years, Marie was an active leader, serving as secretary of her class and as president of her sorority and of her dormitory.

Shortly after graduation she married a student at Jefferson Medical College in Philadelphia. As a wife she participated in the social affairs of the students and, later, in those of the interne staff of Jefferson Hospital. During these years she acquired valuable training by employment in Philadelphia department stores. Her duties consisted of comparison shopping, teaching salesmanship and presenting fashion shows.

The Foxes have two children. Jackson L., Jr. (Jack) is a senior at Bucknell, and Frederica (Ricky) is a freshman at the same university. Dr. and Mrs. Fox also have a Norwegian son who came to them under the auspices of the American Field

Service. They were the first "host family" in Sussex County, and still keep closely in touch with their boy.

Our president's teacher-training has given her an intensive interest in education. She has served on the Seaford School Board, and in the position of State Chairman of Education for A. A. U. W. Her name is listed as a charter member of Seaford Branch, A. A. U. W., and she has served as president of this group as well as State Arts Chairman. In 1948 she was instrumental in forming an arts study group and convinced Howard Schroeder, well known Lewes artist, to teach a class in oil painting. Mr. Schroeder is still conducting a weekly class in Seaford.

Mrs. Fox enjoys a variety of activities. She has presented fashion shows for churches and civic groups, headed Red Cross and Cancer drives, judged sewing and beauty contests. She is a particularly active member of the Auxiliary to the Nanticoke Memorial Hospital

Sewing is her main hobby, and she has become quite expert. She makes clothes, slipcovers and draperies. With her creative talent she also turns out jewelry, hats, leather gloves, hooked rugs and painted tin ware. She is a good "shot", an excellent swimmer, and recently has taken up skin diving in order to participate in one of the favorite sports of other members of her family.

Contributors Column

Mesrop A. Tarumianz, M.D., associated with Delaware State Hospital in continuous service since 1918, has been superintendent of the Delaware State Hospital since 1926. He is also State Psychiatrist, superintendent of the Governor Bacon Health Center and of The Hospital For The Mentally Retarded, and director of the Mental Hygiene Clinics and the Day Care Centers For Severely Retarded Children. Dr. Tarumianz, chairman of the Central Inspection Board of the American Psychiatric Association as well as chairman of the Committee on Ethics of the A. P. A., is also president of the National Association of State Mental Health Program Directors.

线

Kurt Anstreicher, M.D., received the degree of Doctor of Medicine from the University of Vienna, and completed further training at the Graduate School of the University of Pennsylvania and at the Pennsylvania Hospital and Institute. His experience includes service at the School for the Mentally Defective at Portage La Preivie, Manitoba, Canada; Hospital for Mental Diseases at Branslon, Manitoba; Child Guidance Clinics of Western Manitoba. Dr. Anstreicher who joined the Staff of the Delaware State Hospital in 1954, is instructor in psychiatry at the University of Pennsylvania Medical School. He is a Fellow of the American Psychiatric Association and is president of the Delaware Psychiatric Society.

类

Mary Nanigian, M.D., associated with the Governor Bacon Health Center since 1956, has worked closely with the maladjusted presychotic and psychotic children. After completing approved training in psychiatry, she has been Acting Clinical Director since 1957. Dr. Nanigian was formerly with the Weston State Hospital, West Virginia, where she was in charge of the women's service, and for two and a half years she was at the Eastern State Hospital, Williamsburg, Virginia, where she completed two years of approved training in psychiatry and, for approximately one year, was Acting Chief of the Women's Service.

災

Leon E. Petty is a graduate of Howard University; B.S. and University of Delaware; M.S. Dr. Petty, on the psychological staff of the Delaware State Mental Hygiene Clinics for the past four years, is a member of the Delaware Psychological Association; associate member of the American Psychological Association; American Group Psychotherapy Association, and a member of the Council for Exceptional Children.

Louis J. Kowalski, M.D., formerly Assistant Director of the Bureau of Mental Health for the State of Pennsylvania, and Clinical Director of the Austin State Hospital, Texas, was at one time associated with the Pediatric Psychiatric Clinic of Temple University, School of Medicine. He also was on the teaching staff of the University of Pittsburgh Medical School in association with his services in the Western State Psychiatric Institute and Clinic at Pittsburgh. Dr. Kowalski was psychiatric consultant for the Arizona State Hospital in Phoenix, and is certified by the Board of Neurology and Psychiatry. He has been living at the Governor Bacon Health Center, Delaware City, Delaware, for the past two years.

15

Charles William Dunn, M.D., New York University Medical College, '15, has conducted original clinical research in endocrinology for the past 30 years and was instrumental in establishing the basis of the use of stilbestrol in carcinoma of the prostate. Dr. Dunn, a retired Associate Professor of Medicine at the Graduate School of Medicine, University of Pennsylvaia, has been associated with the Delaware State Hospital for the past 20 years and is a member of the Endocrine Society.

线

Roger H. Culpan, M.D., a New Zealander who obtained his medical qualifications from the University of New Zealand in 1951, moved to England to take his specialist qualifications in internal medicine with the Royal College of Physicians of London and then received his diploma in Psychological Medicine at the University of London. He is at present visiting the United States in order to further his experience, before entering private psychiatric practice in his own country.

1%

Harry S. Howard, M.D., University of Buffalo, '34, practiced general medicine in Buffalo until he entered psychiatric training in 1942 at Kalamazoo State Hospital, and was affiliated with Kalamazoo Child Guidance. In 1949 he became Clinical Director of the Delaware State Mental Hygiene Clinics. In this capacity he has served as psychiatric consultant to the Wilmington Child Development and the Delaware (State) Child Development and Guidance, for the three schools for delinquent children, and for a period of time, for the New Castle Correctional Institution. Dr. Howard has published a number of papers on the subject of delinquency in children and adults.

IN EMOTIONALLY PROJECTED SMOOTH-MUSCLE SPASM...

Prompt, Profound Protection...at both ends of the vagus

PRO-BANTHĪNE° with DARTAL°

Professional reliance on the therapeutic proficiency of Pro-Banthīne in functional gastrointestinal disorders has made it the most widely prescribed anticholinergic.

The consistent relief of emotional tensions afforded by Dartal makes this well-tolerated tranquilizer a rational choice to support the antispasmodic action of Pro-Banthīne in emotionally influenced smooth-muscle spasm.

These two reliable agents combined as Pro-Banthīne with Dartal consistently control both disturbed mood and disordered motility when emotional disturbances project themselves through the vagus to provoke such gastrointestinal dysfunctions as gastritis, pylorospasm, peptic ulcer, spastic colon or biliary dyskinesia.

USUAL ADULT DOSAGE:

One tablet three times a day.

SUPPLIED as aqua-colored, compression-coated tablets containing 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride).

G. D. SEARLE & CO.

Chicago 80, Illinois
Research in the Service of Medicine





Use of pHisoHex for washing the skin augments any other therapy for acne — brings better results. Now, pHisoAc Cream, a new acne remedy for topical application, suppresses and masks lesions — dries, peels and degerms the skin. Together, pHisoHex and pHisoAc provide basic complementary topical therapy for acne.

pHisoHex, antibacterial detergent with 3 per cent hexachlorophene, removes soil and oil better than soap — provides continuous degerming action when used often. pHisoHex is nonalkaline, nonirritating and hypoallergenic.

When pHisoAc Cream is used with pHisoHex washings, it unplugs follicles, helps prevent

development of comedones, pustules and scarring. New pHisoAc Cream is flesh-toned, not greasy. It contains colloidal sulfur 6 per cent, resorcinol 1.5 per cent, and hexachlorophene 0.3 per cent in a specially prepared base. pHisoAc is pleasant to use.

A new "self-help" booklet, Teen-aged? Have acne? Feel lonely?, gives important psychologic first aid for patients with acne and describes the proper use of pHisoHex and pHisoAc. Ask your Winthrop representative for copies.

pHisoAc is available in $1\frac{1}{2}$ oz. tubes and pHisoHex is available in 5 oz. plastic squeeze bottles and in bottles of 16 oz.

pHisoHex® and pHisoAc for acne

Winthrop

LABORATORIES

New York 18. N. Y.

THE ORIGINAL potassium phenethicillin

SYNCILLIN

(phenoxyethyl penicillin potassium)

A dosage form to meet the individual requirements of patients of all ages in home, office, clinic, and hospital:

Syncillin Tablets – 250 mg. (400,000 units)...Syncillin Tablets – 125 mg. (200,000 units)

Syncillin for Oral Solution - 60 ml. bottles - when reconstituted, 125 mg. (200,000 units) per 5 ml.

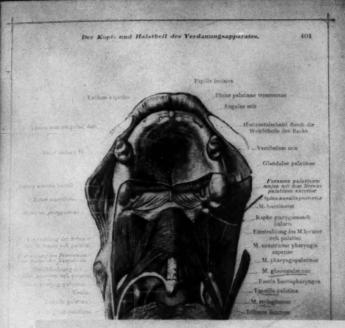
Syncillin Pediatric Drops - 1.5 Gm. bottles. Calibrated dropper delivers 125 mg. (200,000 units)

Complete information on indications, dosage and precautions is included in the circular accompanying each package.

BRISTOL LABORATORIES, SYRACUSE, NEW YORK THUS







Actual case summary from the files of Bristol Laboratories' Medical Department

ACUTE TONSILLITIS

SYNCILLIN® 250 mg. q.i.d. - 5 days

B.G. 9-year-old, white male. First seen Aug. 11, 1959 with acute tonsillitis. Illness of 3 days' duration. Beta hemolytic streptococcus extremely sensitive to SYNCILLIN cultured from the throat. Patient started on SYNCILLIN - 250 mg. q.i.d. After 5 days, the infection appeared cured and the antibiotic was discontinued. No subjective or objective evidence of side reactions.

Simple Diet Changes

can help control serum cholesterol



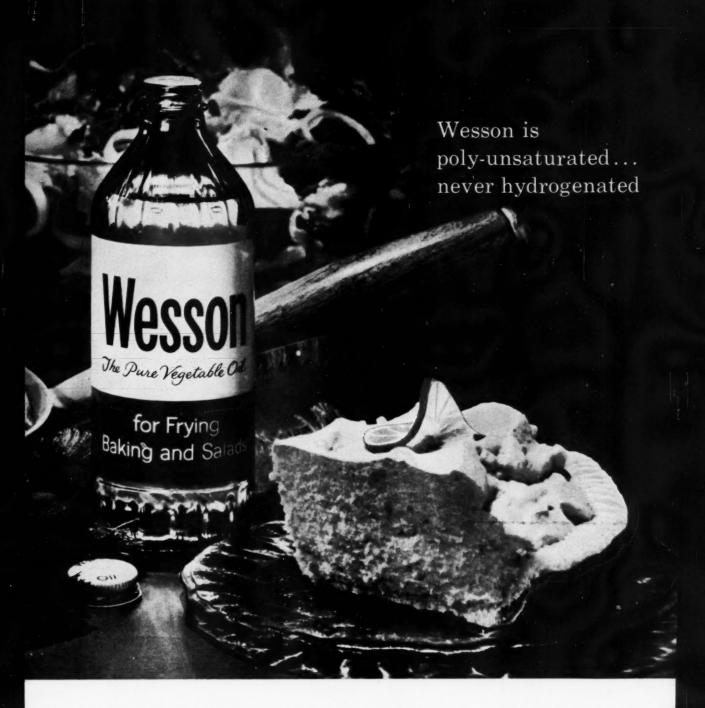
Fortunately for the patient's morale—often all that is necessary when you want to prescribe a regimen to reduce serum cholesterol is to...

- 1. control the amount of calories and the type of dietary fat...and
- make a simple modification in the method of food preparation, using poly-unsaturated vegetable oil in place of saturated fats

Obviously, in any special diet, the fewer required changes in the patient's eating habits, the more likelihood there is that the patient will adhere to the prescribed diet. After adjusting total fat and calorie intake, the simple replacement of *saturated* fats (those used at the table and in cooking) with *poly*-unsaturated Wesson makes possible a most subtle dietary change, yet conforms completely to therapeutic requirements.

Uniformity you can depend on. Wesson has a poly-unsaturated content better than 50%. Only the lightest cottonseed oils of high iodine number are selected for Wesson and no significant variations in standards are permitted in the 22 exacting specifications required before bottling.

Wesson satisfies the most exacting appetites. To be effective, a diet must be eaten by the patient.



The majority of housewives prefer Wesson particularly by the criteria of odor, flavor (blandness) and lightness of color. (Substantiated by sales leadership for 59 years and reconfirmed by recent tests against the next leading brand with brand identification removed, among a national probability sample.)

Poly-unsaturated Wesson is unsurpassed by any readily available brand, where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen.

WESSON'S IMPORTANT CONSTITUENTS

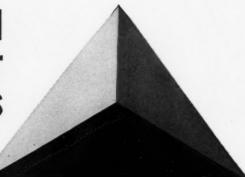
| Wesson is 100% cottonseed oil winterized a | nd o | f sel | ected quality |
|---|------|-------|---------------|
| Linoleic acid glycerides (poly-unsaturated) | | | . 50-55% |
| Oleic acid glycerides (mono-unsaturated) | | | . 16-20% |
| Total unsaturated | | | . 70-75% |
| Palmitic, stearic and myristic glycerides (saturated) | | | . 25-30% |
| Phytosterol (Predominantly beta sitosterol) | | | |
| Total tocopherols | | | 0.09-0.12% |
| Never hydrogenated—completely salt free | | | |

Free Wessen recipes for delicious main dishes, desserts and salad dressings are available for your patients. Request quantity needed from The Wesson People, Dept. N, 210 Baronne St., New Orleans 12, La.

3-dimensional support for older patients



- ▲ interest, vitality
- ▲ failing nutrition





Geriatric Vitamins-Minerals-Hormones-d-Amphetamine Lederle

Each capsule contains: Ethinyl Estradiol 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B₁₂ with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (0ral) • Thiamine Mononitrate (B₁) 5 mg. • Riboflavin (B₂) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCI (B₁) 5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate

50 mg. • I-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental Iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as CaHPO₄) 35 mg. • Phosphorus (as CaHPO₄) 27 mg. • Fluorine (as CaF₂) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K₂SO₄) 5 mg. • Manganese (as MnO₂) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MoO) 1 mg. • Boron (as Na₂B₂O₂,10H₂O) 0.1 mg. Bottles of 100, 100O.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY. Pearl River, New York



FRAIM'S DAIRIES

Division

ABBOTTS DAIRIES

Fine Dairy Products

Wilmington

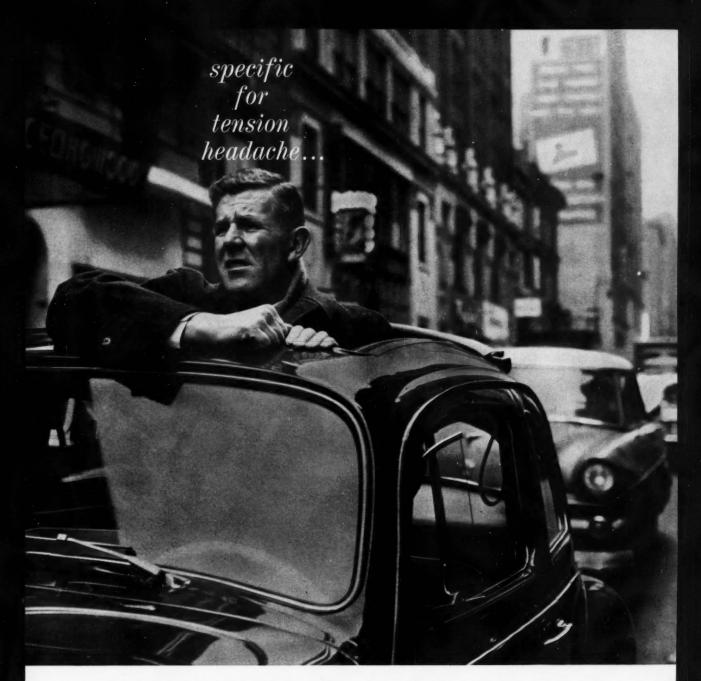
It's your professional privilege to replenish your ranks . . .

Give to medical education through AMEF



American Medical **Education Foundation** 535 N. Dearborn St., Chicago 10, III.





FIORIAI relieves pain, muscle spasm, nerrous tension

nervous tension

rapid action · non-narcotic · economical

"We have found caffeine, used in combination with acetylsalicylic acid, acetophenetidin, and isobutylallylbarbituric acid, [Fiorinal] to be one of the most effective medicaments for the symptomatic treatment of headache due to tension."

Friedman, A. P., and Merritt, H. H.: J.A.M.A. 163:1111 (Mar. 30) 1957.

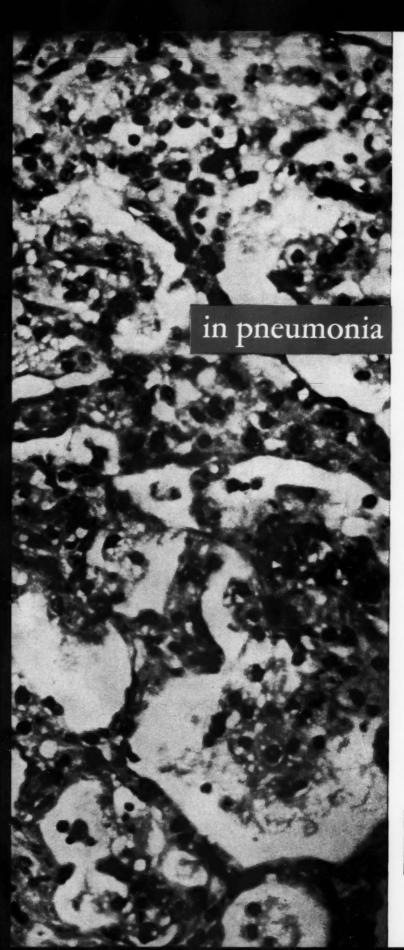
Available: Fiorinal Tablets and New Form - Fiorinal Capsules

Each contains: Sandoptal (Allylbarbituric Acid N.F. X) 50 mg. (3/4 gr.), caffeine 40 mg. (2/3 gr.), acetylsalicylic acid 200 mg. (3 gr.), acetophenetidin 130 mg. (2 gr.).

Dosage: 1 or 2 every four hours, according to need, up to 6 per day.







Therapeutic confidence

Panalba is effective against more than 30 commonly encountered pathogens including staphylococci resistant to other antibiotics. Right from the start, prescribing it gives you a high degree of assurance of obtaining the desired anti-infective action in this as in a wide variety of bacterial diseases.

Supplied: Capsules, each containing Panmycin*
Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.
*Trademark. Reg. U. S. Pat. Off.

The Upjohn Company Kalamazoo, Michigan

Upjohn

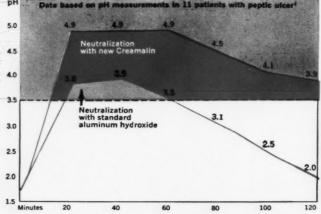
Panalba your broad-spectrum

antibiotic of first resort

peptic ulcer



Following determination of basal secretion, intragastric pH was continuously determined by means of frequent readings over a two-hour period.



neutralization is much faster and twice as long with

New proof in vivo! of the much greater efficacy of new Creamalin tablets over standard aluminum hydroxide has now been obtained. Results of comparative tests on patients with peptic ulcer, measured by an intragastric pH electrode, show that new Creamalin neutralizes acid from 40 to 65 per cent faster than the standard preparation. This neutralization (pH 3.5 or above) is maintained for approximately one hour longer.

New Creamalin provides virtually the same effects as a liquid antacid2 with the convenience of a tablet.

Nonconstipating and pleasant-tasting, new Creamalin antacid tablets will not produce "acid rebound" or alkalosis.

Each new Creamalin antacid tablet contains 320 mg. of specially processed, highly reactive, short polymer dried aluminum hy-droxide gel (stabilized with hexitol) with 75 mg. of magnesium hydroxide. Minute particles of the powder offer a vastly increased surface area for quicker and more complete acid neutralization. Dosage: Gastric hyperacidity – from 2 to 4 tablets as necessary. Peptic ulcer or gastritis – from 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed whole with water or milk, or allowed to dissolve in the mouth. How supplied: Bottles of 50, 100, 200 and 1000.

1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.; J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

New York 18, N. Y.

for peptic ulcer gastritis gastric hyperacidity

Blood pressure that goes up with stress often comes down with SERPASIL®

reserpine CIBA)

One reason that many cases of hypertension respond to Serpasil is that many cases are associated with stress. Stress situations produce stimuli which pass through the sympathetic nerves, constricting blood vessels, and increasing heart rate. Hyperactivity of the sympathetic nervous system may elevate blood pressure; if prolonged, this may produce frank hypertension. By blocking the flow of excessive stimuli to the sympathetic nervous system, Serpasil guards against stress-induced vasoconstriction, brings blood pressure down slowly and gently.

In mild to moderate hypertension, Serpasil is basic therapy, effective alone "...in about 70 per cent of cases..."*

In severe hypertension, Serpasil is valuable as a primer. By adjusting the patient to the physiologic setting of lower pressure, it smooths the way for more potent antihypertensives.

In all grades of hypertension, Serpasil may be used as a background agent. By permitting lower dosage of more potent antihypertensives, Serpasil minimizes the incidence and severity of their side effects.

*Coan, J. P., McAlpine, J. C., and Boone, J. A.: J. South Carolina M. A. 51:417 (Dec.) 1955.

200 200 100 E

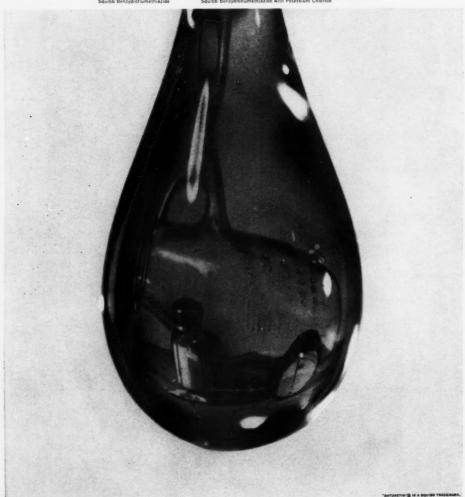


".. extraordinarily effective diuretic."

Efficacy and expanding clinical use are making Naturetin the diuretic of choice in edema and hypertension. It maintains a $\frac{\text{Supplied}}{\text{E K (5 \bar{c}}} 500)$ Tablets, capsule-shaped, containing 5 mg. benbalanced electrolyte pattern, and causes a relatively small increase in the urinary pH.2 More potent than other diuretics, Naturetin usually provides 18-hour diuretic action with just a single 5 mg. tablet per day — economical, once-a-day dosage for the patient. Naturetin \bar{c} K — for added protection in those special conditions predisposing to hypokalemia and for patients on long-term therapy.

favorable urinary sodium-potassium excretion ratio, retains a zydroflumethiazide and 500 mg. potassium chloride. Naturetin c K (2.5 c 500) Tablets, capsule-shaped, containing 2.5 mg. benzydroflumethiazide and 500 mg. potassium chloride. For complete information consult package circular or write Professional Service Dept., Squibb, 745 Fifth Avenue, New York 22, N. Y. References: 1. David, N. A.; Porter, G. A., and Gray, R. H.: Monographs on Therapy 5:60 (Feb.) 1960. 2. Ford, R. V.: Current Therap. Res. 2:92 (Mar.) 1960.

Naturetin Naturetine



"I'm sending this urine specimen from the patient with pyelitis to the lab. What'll I order while I'm waiting for the findings?" "I'd use AZOTREX. The azo dye will give her quick symptomatic relief. The sulfa-tetracycline combination is likely to hit the common urinary pathogens. If she doesn't respond, then switch to something else when you get the sensitivity data."

Azotrex



NEW COMPREHENSIVE SUPPORT

BALANCED HORMONE SUPPLEMENTATION

BROAD NUTRITIONAL REINFORCEMENT

MOOD ELEVATION



Each capsule contains: Ethinyl Estradiol 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin By a with AuTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (Oral) • Thiamine Mononitrate (B.) 5 mg. • Riboflavin (B2) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B₀) 0.5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate

50 mg. • I-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 int. Units • Rutin 12.5 mg. • Ferrous Furmarate (Elemental Iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as CaHPO_) 35 mg. • Phosphorus (as CaHPO_4) 27 mg. • Fluorine (as CaF₂) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K₃SO₄) 5 mg. • Manganese (as MnO₂) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as Na₂B₄O₂, 10H₂O) 0.1 mg. Bottles of 100, 1000.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



Physicians' and Surgeons'

PROFESSIONAL Liability Insurance

Provides Complete Malpractice Protection, Avoids Unpleasant Situations By Immediate Thorough Investigation And Saves You The High Costs Of Litigation.

The Only Plan Which Is Officially Sponsored By Your Local Medical Society

> The New Castle County Medical Society The Kent County Medical Society The Sussex County Medical Society

> > WRITE OR PHONE

J. A. Montgomery, Inc.

DuPont Bldg.

10th & Orange Sts.

87 Years of Dependable Service

Phone Wilmington OL 8-6471

If it's insurable we can insure it

Iodavs Health

A GOOD BUY IN PUBLIC RELATIONS

Today's Health is published for the American Family by the American Medical Association

GIVE GIFT SUBSCRIPTIONS to your patients and friends

Today's Health - AMA 535 N. Dearborn Street Chicago 10, Illinois

City .

Please enter the following subscription:

2 YEARS \$5.00 1 YEAR \$3.00

(U.S., U.S. POSSESSIONS & CANADA)

Address -

Zone ___

State

Please Print--Use separate sheet for additional names.

SJ



What's she doing that's of medical interest?

She's drinking a glass of pure Florida orange juice. And that's important to her physician for several reasons.

How your patients obtain their vitamins or any of the other nutrients found in citrus fruits is of great medical interest—considering the fact there are so many wrong ways of doing it, so many substitutes and imitations for the real thing.

Actually, there's no better way for this young lady to obtain her vitamin C than by doing just what she is doing, for there's no better source than oranges and grapefruit ripened in the Florida sunshine. There's no substitute for the result of nature's own mysterious chemistry, flourishing in the warmth of this luxurious peninsula.

An obvious truth, you might say, but not so obvious to the parents of many teen-agers.

We know that a tall glass of orange juice is just about the best thing they can reach for when they raid the refrigerator. We also know that if you encourage this refreshing and healthful habit, you'll be helping patients to the finest between-meals drink there is.

Nothing has ever matched the quality of Florida citrus — watched over as it is by a State Commission that enforces the world's highest standards for quality in fresh, frozen, canned or cartoned citrus fruits and juices.

That's why the young lady's activities are of medical interest.

benzthiazide

a new molecule with an NaClex unsurpassed faculty for salt excretion



in diuresis

salt removal is still the fundamental objective

As salt goes, so goes edema

A fundamental principle of diuresis is that "increased urine volume and loss of body weight are proportional to and the osmotic consequences of loss of ions." New NaClex helps reduce edema through the application of this basic principle.

Apparently functioning in the proximal renal tubules, NaClex strictly limits the reabsorption of sodium and chloride ions. To maintain the essential, subtle balance between salt and water, the body's homeostatic mechanism reponds to this loss of ions by allowing an increased excretion of excessive extracellular water. Thus the NaClex-induced removal of salt leads directly to the reduction of edema.

How potent is benzthiazide?

Compared tablet for tablet with oral diuretics now available, NaClex is unsurpassed in potency. Milligram for milligram, it has achieved optimum diuresis in pharmacologic studies at 1/20 the dose required for chlorothiazide.

What are the major diuretic indications for NaClex? NaClex produces diuresis, weight loss, and symptomatic improvement in edema associated with conditions such as congestive heart failure, cirrhosis of the liver, chronic renal diseases (including nephrosis), premenstrual tension, toxemia of pregnancy, and obesity. Edema of local origin and that caused by steroids may also benefit.

To what extent is NaClex useful in hypertension? NaClex has definite antihypertensive properties, and may be used alone in mild hypertension. In severer cases it may be used with other antihypertensive drugs, potentiating them and permitting their use at lower dosage. In hypertension with associated water retention, NaClex is of twofold value. It may be prescribed for congestive heart failure as an ancillary measure to digitalis.

Is potassium excretion a problem with NaClex?

In short-term therapy, excessive potassium excretion is unlikely. In the effective dose range, potassium loss varies from $\frac{1}{6}$ to $\frac{1}{2}$ that of sodium. Naturally, the ratio of these ions depends on the rate at which excess sodium stores are depleted, and whether salt intake is restricted.

Can NaClex and mercurials be given concurrently? Yes. When so employed, NaClex may increase the efficacy of mercurials. But NaClex alone is often effective enough to eliminate the need for parenteral mercurial administration. Also, NaClex may be effective in cases when mercurials are not.

Supply: Available in yellow, scored 50 mg. tablets.

References: 1. Ford, R. V., Cur. Therap. Res., 2:51, 1960. 2. Pitts, R. F., Am. J. Med., 24:745, 1958.

For complete dosage schedules, precautions, or other information about new NaClex, please consult basic literature, package insert, or your local Robins representative, or write to A. H. Robins Co., Inc., Richmond, Va.

A. H. ROBINS COMPANY, INC. RICHMOND 20, VIRGINIA



IN COLDS AND SINUSITIS— THE RIGHT AMOUNT OF "INNER SPACE" RIGHT AWAY Neo-Synephrine hydrochloride relieves the boggy

Neo-Synephrine hydrochloride relieves the boggy feeling of colds immediately and safely, without causing systemic toxicity or chemical harm to nasal membranes. Turbinates shrink, sinus ostia open, ventilation and drainage resume, and mouth-breathing is no longer necessary.

Gentle Neo-Synephrine shrinks nasal membranes for from two to three hours without stinging or harming delicate respiratory tissues. Post-therapeutic turgescence is minimal. Neo-Synephrine does not lose its effectiveness with repeated applications nor does it cause central nervous stimulation, jitters, insomnia or tachycardia.

Neo-Synephrine solutions and sprays produce shrinkage of tissue without interfering with ciliary activity or the protective mucous blanket.

Winthrop LABORATORIES New York 18, N. Y.

NEO-SYNEPHRINE®

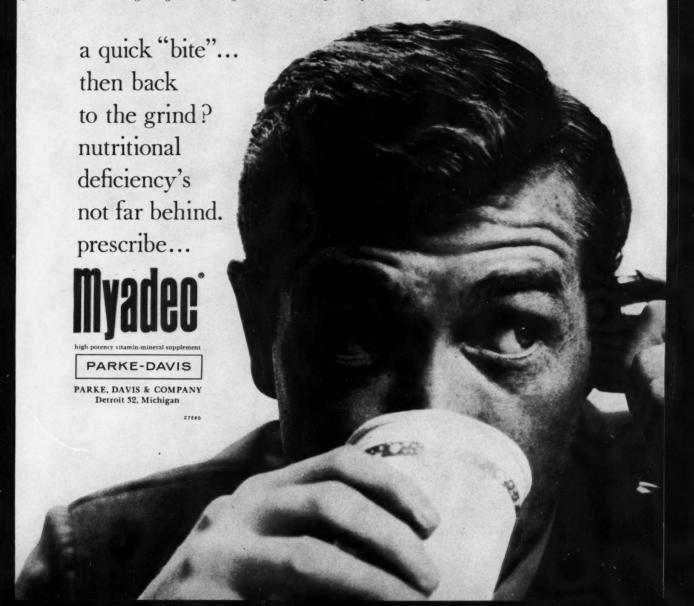
of phenylephrine hydrochloride) hydrochloride

NASAL SOLUTIONS AND SPRAYS

For wide latitude of effective and safe treatment, Neo-Synephrine hydrochloride is available in nasal sprays for adults and children; in solutions from 1/8% to 1%; and in aromatic solution and water soluble jelly.

In active people who won't take time to eat properly, MYADEC can help prevent deficiencies by providing comprehensive vitamin-mineral support. Just one capsule a day supplies therapeutic doses of 9 important vitamins plus significant quantities of 11 essential minerals and trace elements. MYADEC is also valuable in vitamin depletion and stress states, in convalescence, in chronic disorders, in patients on salt-restricted diets, or wherever therapeutic vitamin-mineral supplementation is indicated.

Each MYADEC Capsule contains: VITAMINS: Vitamin B₁₂ crystalline—5 mcg.; Vitamin B₂ (riboflavin)—10 mg.; Vitamin B₃ (pyridoxine hydrochloride)—2 mg.; Vitamin B₄ mononitrate—10 mg.; Nicotinamide (niacinamide)—100 mg.; Vitamin C (ascorbic acid)—150 mg.; Vitamin A—(7.5 mg.) 25,000 units; Vitamin D—(25 mcg.) 1,000 units; Vitamin E (d-alpha-tocopheryl acetate concentrate)—5 I.U. MINERALS: (as inorganic salts) Iodine—0.15 mg.; Manganese—1 mg.; Cobalt—0.1 mg.; Potassium—5 mg.; Molybdenum—0.2 mg.; Iron—15 mg.; Copper—1 mg.; Zinc—1.5 mg.; Magnesium—6 mg.; Calcium—105 mg.; Phosphorus—80 mg. Bottles of 30, 100 and 250.



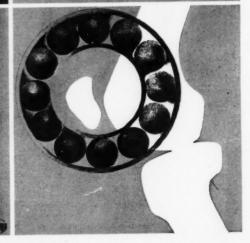
in arthritis and allied disorders

Butazolidin' Geigy

Proved by a Decade of Experience Confirmed by 1700 Published Reports Attested by World-Wide Usage Since its anti-inflammatory properties were first noted in Geigy laboratories 10 years ago, time and experience have steadily fortified the position of Butazolidin as a leading nonhormonal anti-arthritic agent. Indicated in both chronic and acute forms of arthritis, Butazolidin is noted for its striking effectiveness in relieving pain, increasing mobility and halting inflammatory change.

Butazolidin®, brand of phenylbutazone: Red, sugar-coated tablets of 100 mg. Butazolidin® Alka: Orange and white capsules containing Butazolidin 100 mg; dried aluminum hydroxide gel 100 mg; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

Geigy, Ardsley, New York



1. 李元



in infectious disease17,22,30,39 in arthritis 18,19,20,29 in hepatic disease 2.3.4.5.39 in malabsorption syndrome 1.2.4.27 in degenerative disease 5.7.19.20.40 in cardiac disease 29,29,29,29,39,41 in dermatitis **. ** in peptic ulcer *. 21.30

in neuroses & psychiatric disorders 25,20 in diabetes mellitus 31,32,33,39

in alcoholism9,11,35,37,30

in ulcerative colitis 10,14,18

in osteoporosis13,19,20

in pancreatitis

In female climacteric 12.34

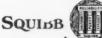
the nutritional support provided by

11 vitamins, 8 minerals clinically-formulated and potency protected to provide

> enough nutritional support to do some good

> > with vitamins only Theragran also available:

Theragran Liquid Theragran Junior

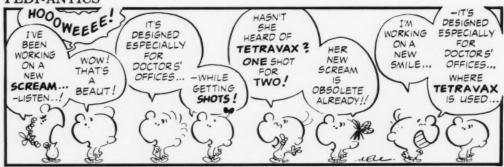


Squibb Quality—the Priceless Ingredient

FOR SIMULTANEOUS IMMUNIZATION AGAINST 4 DISEASES:

Poliomyelitis-Diphtheria-Pertussis-Tetanus





now you can immunize against more diseases...with fewer injections

Supplied: 9 cc. vials in clear plastic cartons. Package circular and material in vial can be examined without damaging carton. Expiration date is on vial for checking even if carton is discarded.



For additional information, write Professional Services, Merck Sharp & Dohme, West Point, Pa.



MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.



effective antibiotic than ERYTHROCIN

How much "spectrum" do you need in treating an infection? Clearly, you want an antibiotic that will show the greatest activity against the offending organism, and the least activity against non-pathogenic gastro-intestinal flora.

Weigh these criteria—and make this comparison—when treating your next coccal infection. Erythrocin is a medium-spectrum antibiotic, notably effective

against gram-positive organisms. In this it comes close to being a "specific" for coccal infections—which means it is delivering a high degree of activity against the majority of common infection-producing bacteria.

And against many of the troublesome "staph" strains—a group which shows increasing resistance to penicillin and certain other antibiotics—Erythrocin continues to provide bactericidal activity. Yet, as potent as Erythrocin is, it rarely has a disturbing effect on normal gastro-intestinal flora. Comes in easy-to-

swallow Filmtabs®, 100 and 250 mg. Usual adult dose is 250 mg. every six hours. Children, in proportion to age and weight. Won't you try Erythrocin? ®Filmtab—Film-sealed tablets, Abbott.



More than keeping abreast . . . keeping ahead!

Plan to AMA 14th Clinical Meeting

Washington, D.C.

Registration and Exhibits National Guard Armory November 28, 29, 30, December 1

Use any means but by <u>all</u> means attend this session—an informative cross-section of medicine for <u>all</u> physicians.

- ☆ OVER 100 SCIENTIFIC PAPERS
- ☆ OVER 100 SCIENTIFIC EXHIBITS
- ☆ OUTSTANDING SYMPOSIA & PANELS
 - · Coronary Artery Disease
 - · Clinical Nutrition
 - · Panel on Nodules
 - · Panel on Antibiotics and Steroids

See October 1 and October 22 JAMA for hotel and meeting registration forms...Complete scientific program of Clinical Meeting appears in October 22 JAMA

AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street, Chicago 10, Illinois

contain the bacteria-prone cold Cold Criacetyloleandomycin, Triaminic® and Calurin®)

inner protection with...

safe antibiosis

Triacetyloleandomycin, equivalent to oleandomycin 125 mg. This is the URI antibiotic, clinically effective against certain antibiotic-resistant organisms.

fast decongestion

Triaminic®, 25 mg., three active components stop running noses. Relief starts in minutes, lasts for hours.

well-tolerated analgesia

Calurin®, calcium acetylsalicylate carbamide equivalent to aspirin 300 mg. This is the freely-soluble calcium aspirin that minimizes local irritation, chemical erosion, gastric damage. High, fast blood levels.

TAIN brings quick, symptomatic relief of the common cold (malaise, headache, muscular cramps, aches and pains) especially when susceptible organisms are likely to cause secondary infection. Usual adult dose is 2 Inlay-Tabs, q.i.d. In bottles of 50. By only. Remember, to contain the bacteria-prone cold...TAIN.

SMITH-DORSEY · Lincoln, Nebraska a division of The Wander Company



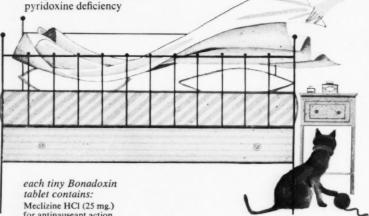
taken at bedtime

BONADOXUN

STOPS MORNING SICKNESS IN 94%

OFTEN WITH JUST ONE TABLET DAILY

by treating the symptom—
nausea and vomiting—as well
as a possible specific cause—
pyridoxine deficiency





Meclizine HCl (25 mg.) for antinauseant action Pyridoxine HCl (50 mg.) for metabolic replacement.

usual dose: One tablet at bedtime; severe cases may require another tablet on arising.

supply: Bottles of 25 and 100 tablets. Bonadoxin also effectively relieves nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, and motion sickness. Also useful in postoperative nausea and vomiting.

Bibliography on request.

For infant colic, try Bonadoxin Drops. Each cc. contains: Meclizine 8.33 mg./ Pyridoxine 16.67 mg.



New York 17, N. Y. Division, Chas. Pfizer & Co., Inc. Science for the World's Well-BeingTM

and...when your OB patient needs the best in prenatal vitamin-mineral supplementation...

OBRON®

UNSURPASSED "GENERAL-PURPOSE" CORTICOSTEROID...

Aristocort Triancinologe LEDERLE

OUTSTANDING FOR "SPECIAL-PURPOSE" THERAPY





Aristocort

Triamcinolone has long since proved its unsurpassed efficacy and relative safety in the therapy of rheumatoid arthritis, inflammatory and allergic dermatoses, bronchial asthma, and all other conditions in which corticosteroids are indicated. But ARISTOCORT has also opened up new areas of therapy for selected patients who otherwise could not be given corticosteroids. Medicine is now in an era of "special-purpose" steroids.

One outstanding advantage of triamcinolone is that it rarely produces edema and sodium retention.^{1,2}

The clinical importance of this property cannot be overemphasized in treating certain types of patients. McGavack and associates have reported the beneficial results with ARISTOCORT in patients with existing or impending cardiac failure, and those with obesity associated with lymphedema. Triamcinolone, in contrast to most other steroids, is not contraindicated in the presence of edema or impending cardiac decompensation.

Hollander¹ points out the superiority of triamcinolone in not causing mental stimulation, increased appetite and weight gain, compared to other steroids which produce these effects in varying degrees. And McGavack,² in a comparative tabulation of steroid side effects, indicates that triamcinolone does not produce the increased appetite, insomnia, and psychic disturbances associated with other newer steroids.

ARISTOCORT can thus be advantageous for patients requiring corticosteroids whose appetites should not be stimulated, and for those who are already overweight or should not gain weight. Likewise, ARISTOCORT is suitable for the many patients with emotional and nervous disorders who should not be subjected to psychic stimulation. Furthermore, ARISTOCORT Triamcinolone, in effective doses, showed a low incidence of side reactions and is a steroid of choice for treating the older patient in whom salt and water retention may cause serious damage.²

References: 1. Hollander, J. L.: J.A.M.A. 172:306 (Jan. 23) 1960. 2. McGavack, T. H.: Nebraska M. J. 44:377 (Aug.) 1959. 3. McGavack, T. H.; Kao, K. Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: Am. J. M. Sc. 236:720 (Dec.) 1958.

Precautions: Collateral hormonal effects generally associated with corticosteroids may be induced. These include Cushingoid manifestations and muscle weakness. However, sodium and potassium retention, edema, weight gain, psychic aberration and hypertension are exceedingly rare. Dosage should be individualized and kept at the lowest level needed to control symptoms. It should not exceed 36 mg. daily without potassium supplementation. Drug should not be withdrawn abruptly. Contraindicated in herpes simplex and chicken pox.

Supplied: Scored tablets -1 mg. (yellow); 2 mg. (pink); 4 mg. (white); 16 mg. (white).





Dependable Pain Reliever

Professional confidence in the uniformity, potency and purity of Bayer Aspirin is evidenced by ever increasing recommendation. Bayer Aspirin is the most widely accepted brand of analgesic the world has ever known.

We welcome your requests for samples of Bayer Aspirin and Flavored Bayer Aspirin for Children.



THE BAYER COMPANY, DIVISION OF STERLING DRUG INC., 1450 BROADWAY, NEW YORK 18, N.Y.

AN AMES CLINIOUICK®

CLINICAL BRIEFS FOR MODERN PRACTICE

A urine culture is absolutely essential in the diabetic suspected of having a urinary tract infection since such infection is not always accompanied by pyuria. It is also essential to keep the urine free from sugar - as shown by frequent urine-sugar tests - for successful therapy. Source: Harrison, T. R., et al.: Principles of Internal Medicine, ed. 3, New York, McGraw-Hill Book Co., 1958, p. 620.

the most effective method of routine testing for glycosuria... color-calibrated

NITES Reagent Tablets

the standardized urine-sugar test for reliable quantitative estimations

Urinary tract infections are about four times more frequent in the diabetic than in the non-diabetic. The prevention and treatment of urinary tract infections, as well as the avoidance of other complications of diabetes, are significantly more effective in the well-controlled diabetic. The patient should be impressed repeatedly with the importance of continued daily urine-sugar testing-especially during intercurrent illness-and warned of the consequences of relaxed vigilance.

"urine-sugar profile" With the new Graphic Analysis Record included in the CLINITEST Urine-Sugar Analysis Set (and in the tablet refills), daily urine-sugar readings may be recorded to form a graphic portrayal of glucose excretion most useful in clinical control.

- · motivates patient cooperation through everyday use of Analysis Record
- · reveals at a glance day-to-day trends and degree of control
- · provides a standardized color scale with a complete range in the familiar blue-toorange spectrum

COMPANY, INC Toronto · Canada

guard against ketoacidosis ... test for ketonuria for patient and physician use ADDED SAFETY FOR DIABETIC CHILDREN





to relieve anxiety either accompanying or causing somatic distress

advantages you can expect to see with Stelazine®

- Prompt control of the underlying anxiety. Beneficial effects are often seen within 24-48 hours.
- Amelioration of somatic symptoms. Marx¹ reported from his study of 43 office patients that 'Stelazine' "appeared to be effective for patients whose anxiety was associated with organic—as well as functional disorders."
- Freedom from lethargy and drowsiness. Winkelman² observed that 'Stelazine' "produces a state approaching ataraxia without sedation which is unattainable with currently available neuroleptic agents; its freedom from lethargy and drowsiness makes ['Stelazine'] extremely well accepted by patients."

Optimal dosage: 2-4 mg. daily. Available as 1 mg. and 2 mg. tablets, in bottles of 50 and 500.

N.B.: For further information on dosage, side effects, cautions and contraindications, see available comprehensive literature, *Physicians' Desk Reference*, or your S.K.F. representative. Full information is also on file with your pharmacist.

1. Marx, F.J., in Trifluoperazine: Further Clinical and Laboratory Studies, Philadelphia, Lea & Febiger, 1959, p. 89. 2. Winkelman, N.W., Jr.: ibid., p. 78.

SMITH KLINE & FRENCH

